

## **Public Comments Received on the Draft Massachusetts Drought Management Plan**

1. Boutt, David, UMass Amherst
2. Conservation Law Foundation
3. Charles River Watershed Association
4. Charles River Conservancy
5. Charlestown Waterfront Coalition
6. Connecticut River Conservancy
7. Carolyn Dykema, Representative
8. Green Industry Alliance
9. Ipswich River Watershed Association
10. Jones River Watershed Association
11. Mass Audubon
12. Massachusetts Rivers Alliance
13. Massachusetts Water Resources Authority
14. Massachusetts Water Works Association
15. Massachusetts Sierra Club
16. Narragansett Bay Riverkeeper, Save the Bay
17. Nashua River Watershed Association
18. Neponset River Watershed Association
19. North South Rivers Watershed Association
20. OARS for the Assabet Sudbury and Concord Rivers
21. Ocean River Institute
22. Vincent Ragucci, Commissioner MA Water Resources Commission
23. SuAsCo Wild and Scenic River Stewardship Council
24. The Nature Conservancy
25. Water Supply Citizens Advisory Committee
26. Kenneth Weismantel, Commissioner MA Water Resources Commission

**From:** David Boutt [mailto:dboutt@geo.umass.edu]  
**Sent:** Friday, March 15, 2019 8:58 AM  
**To:** Rao, Vandana (EEA)  
**Cc:** Lexi Dewey; Zoltay, Viki (DCR)  
**Subject:** Re: MA draft DMP - Appendix D for your Review

Hi Vandana,

I appreciate the opportunity to comment on the DMP. I applaud your investment in improving the understanding of drought in the region. I think the revision is a substantial step forward. I am including below my comments on how I see the integration of the different indices a weakness of the revised DMP.

As you know I am a hydrologist who has extensively studied hydrologic environments across the commonwealth. One of the most important facets of this work is the understanding of the connectivity (in space and time) across the hydrologic system. For example, when you look at water in a stream or river a large percentage of that water (~80%) moved through the groundwater system. In fact, our recent work using isotopic tracers has shown that only about a 1/3 of water in streams in the commonwealth is younger than 2-3 months. What that means is that when we look at how the hydrologic system responds to drought, it needs to be done with this connectivity in mind. The indices that are documented in the DMP and further expanded in the appendix are a good first step at understanding the response of different components of the system drive and respond to droughts of different lengths and severities. What I find to be a major shortcoming in the DMP is that there is little discussion (or implementation) of how you take the different indices and integrate that information. We know that different components of the hydrologic systems respond at different rates and timescales. I don't find that the document uses the best scientific information or practices to interpret and integrate the different information coming from the index calculations. As I understand it, part of the role of the DMP task force is to get together and discuss this data and make recommendations and to use the indices to trigger different events. This seems (and can be effective) to be the only way that the information from the indices are reconciled. The lack of explicit ways to use the index calculations (and the information contained within) is a major shortcoming of the DMP. I don't have any major concerns with the formulation of the indices provided here, I just do see any discussion of how they are used (in a formal way) together.

I think the commonwealth would benefit by the development of a more mechanistic way to integrate hydrologic information (of the sort that goes into different indices) in a more holistic way. Other states, such as California, have state-wide hydrologic simulation tools that are used to accomplish this task. We have such a great wealth of observations of precipitation, surface water, and groundwater across the commonwealth (some of the highest density observations networks in the world! - thanks in a large part to the commitment to the state) that would be critical to drive such a tool. In fact, we are so well positioned to do this because of available observations. This tool could be updated with the latest climate information including matching historical conditions and be used to make assessments of changes in groundwater and surface storage and fluxes associated with droughts. Additionally, it could also be used to assess (what I see) as one the greatest threats from climate change in the state - the increasing intensity of precipitation and rising soil moisture and the water table. Finally, I would caution against using statistical regression methods to make future projections (such as those used in the Sustainable

Yield Estimator). As climate changes, we are well aware that prior statistical records will not represent future conditions. Tools that take into account process-based understanding of hydrologic systems are able to overcome these limitations.

Respectfully submitted,

David Boutt

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Editor Hydrological Processes; Impact Factor: 3.015; Ranking: 2016: 8/85 (Water Resources)

February 25, 2018

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

Conservation Law Foundation (“CLF”) appreciates the substantial efforts that the staff and members of the Drought Management Task Force have undertaken to update the Massachusetts Drought Management Plan. We feel confident that many of the proposed changes will improve the state’s timeliness and overall response to future droughts. We also recognize that there are a few areas where some of the current proposals could be strengthened in the draft Plan.

CLF protects New England’s environment for the benefit of all people. Founded in 1966, CLF is a non-profit, member-supported organization with offices located in Massachusetts, Vermont, Rhode Island, Maine, and New Hampshire. CLF uses the law, science, and the market to create solutions that protect public health, preserve natural resources, build healthy communities, and sustain a vibrant economy. CLF has been a leading advocate for clean water in Massachusetts and in New England, and is engaged in numerous efforts to address the threats to New England water supplies.

CLF appreciates the opportunity to share the following comments:

#### Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts’ Climate – Past, Present and Future (page 7)*. This section provides detailed descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response in the state.

#### Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not currently include any representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may



share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. The watershed community is well positioned to fill this role as it is well connected and individuals from this community have local expertise that they can share with the rest of the Task Force to ground statewide assessments.

- (2) a hydrologist from one the major Massachusetts universities or colleges. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.
- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under “MassDEP,” the following change:
  - “Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies”

### Section 3: Drought Assessment and Determination

- **Propose** in *Section 3.1 Drought Levels (page 13)*, that “Level 1-Mild Drought” is changed to “**Moderate** Drought.” “Moderate” conveys a stronger sense of severity than “mild.” While we acknowledge that the U.S. Drought Monitor uses similar nomenclature for one of their drought levels, we feel strongly that the use of the term “mild” may lead some to think that the current drought conditions should not be taken seriously.
- **Propose** in *Section 3.4.3 Streamflow (page 20)* “Figure 4: Massachusetts Stream Gage Network for Drought Monitoring,” that Drought Management Task Force staff reviews the current composition of the network gages. It appears that there are no gages in the Cape Cod and Islands Regions. If there are no options for gages in these areas, additional information should be provided in this section regarding how the Task Force will make assessments without any reporting data on this metric from these two regions.
- **Propose** in *Section 3.4.5 Lakes and Impoundments (page 23)* “Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring,” the inclusion of additional data points for the network. The current listing includes primarily water supplies, with only a handful of lakes or impoundments. In addition, the number of data points is extremely limited in many of the regions. For example, both the Connecticut River Region and the Southeast Region have only two data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is truly reflective of conditions in the region.

### Section 4: Process of Determining Drought Status

- **Propose** in *Section 4.3 End of Drought (page 29)*, the following change:
  - “Determinations regarding the end of a drought focus on the precipitation and groundwater indices. **These metrics will be prioritized when evaluating declarations for the end of a drought.**”

#### Section 5: Drought Communication

- **Support** the inclusion of *Section 5: Drought Communication (page 29)*. This additional information clarifies the communication responsibilities of all relevant state agencies and establishes a strong framework for engaging regularly with the public about water conditions.
- **Propose** in *Section 5.1 Communication Platforms (page 30)*, the addition:
  - “The following direct forms of communication will also be utilized, as appropriate... **Outreach to regional planning agencies**”

#### Section 6: Summary of Responsibilities by State Agency

- **Propose** in *Section 6.4 Department of Environmental Protection (MassDEP) (page 45)*, the following change:
  - “MassDEP’s Water Management Act Program tracks the implementation of water use restrictions by **registered and permitted communities** across the state and regularly prepares maps showing the status of restrictions.”

#### Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*. This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask that additional information be provided in this section regarding the timeline for implementation of the new tasks assigned to each respective agency and what entity will be responsible for overseeing the progress of each task.
- **Propose** in “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*, the following additions:
  - Under “Data Gathering, Analysis and Reporting” in the “MassDEP” category, **“Gather data on which municipalities have passed bylaws confirming their authority to require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells.”**
  - Under “Policy and Regulatory Action” in the “DMTF” category, **“Review the Massachusetts Drought Management Plan: Preparedness and Response every five years in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan and update as needed.”**
  - Under “Water Conservation” in the “All agencies” category, **“Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.”**
- **Support** the inclusion of “Table 10: State Drought Guidance” in *Section 7.2 State Agency Drought Response Actions (page 40)*. This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to



communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.

- **Propose** in “Table 11a: State Agency Drought Response Actions During a Level 1 Mild Drought” in *Section 7.2 State Agency Response Actions (page 42)* the following change:
  - “**Apply** the Massachusetts drought management nonessential outdoor water-use restrictions **to all state entities and encourage other water users to do the same.**”

#### Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions (page 48)* “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 52)* “Action 2: Develop a Local Drought Management Plan” that additional information is provided under subsection 4 “Establish Triggering Levels” to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” that a reference is made that financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program.

#### Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change:
  - “Municipalities **may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions.”

#### Section 11: Plan Update and Maintenance

- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - “This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address a **drought.**”

Appendices:

- **Support** the inclusion of *Appendix F: Private Wells-Frequently Asked Questions* (page 67). This section provides greater clarity regarding the impact of private wells on aquifers and encourages conservation of all water resources during a drought, a crucial message to convey in communities that are currently not implementing outdoor watering restriction bylaws that include private wells.
- **Propose** in *Appendix F: Private Wells-Frequently Asked Questions* (page 67) the following change:
  - “During periods of drought, especially when conditions are severe (**Level 1 – Mild Drought and higher**)...”
- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.

Thank you for your time and consideration.

Sincerely,



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**CRWA**

Saving the Charles River since 1965

February 25, 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

***Re: Comments on Proposed Updates to the Massachusetts Drought Management Plan***

Dear Ms. Rao:

Charles River Watershed Association (CRWA) provided comments on the revised state Drought Management Plan (DMP) at the Water Resources Commission meeting last week. These written comments are intended to supplement those comments. CRWA also strongly supports the comments and recommendations of the Massachusetts Rivers Alliance.

We commend the Secretary, the Department of Conservation and Recreation's Office of Water Resources staff, you and the Drought Management Task Force (DMTF) for developing metrics that will enable the state to identify drought earlier, to assess drought levels more accurately, and to respond to drought. The DMP also provides the necessary flexibility for the exercise of professional judgment by DMTF members. The Plan is a critical component for climate resilience—for public health and safety, and ecology. It is a basic building block as the state and municipalities tackle climate change impacts. We urge you to finalize the DMP in March in order for this plan to be in place this spring.

**Drought Levels:**

As you recognize, DMP nomenclature is important. The change in the names of the drought levels is far better for informing the public of actual conditions. We strongly recommend, however, that you change "Mild" drought stage to "Moderate." This will more accurately characterize and convey this level based on the metrics. Between the 20<sup>th</sup> and 30<sup>th</sup> percentile metrics for index severity level and associated percentile range, particularly for precipitation and streamflow, warrants a declaration of moderate drought. Most importantly, it will encourage the public to pay greater attention to drought and to conserve water early. While we understand that the US Drought Monitor classifies D1 as Moderate, we think this likely aligns fairly closely with Level 1 in the DMP. Importantly, the danger of public confusion between the state and federal drought levels is not likely here because the public would first learn that under the Drought Monitor a region is D0, or "abnormally dry," before both the Drought Monitor and the DMP, move respectively, to D1 and L1, Moderate Drought. We believe this will further a DMP goal of "clarity and consistency of messaging."

With respect to the look back period, the key is to provide the DMTF with flexibility in how it weighs the 36, 24 and 12-month lookbacks. In any response to comments, it would be helpful to include an analysis of the performance of the updated DMP based on the 2016 drought.

### Drought Impact Reporting

An on line Drought Impact Reporter will be very helpful and we support the state's efforts to obtain funding to establish this. We also urge that DMTF members from state governmental agencies work to strengthen their own assessment of impacts and reporting. To date, impact reporting this has been largely anecdotal. It is important to document those impacts, which will enable comparisons with normal conditions and also serve as the beginnings of a collective database under drought conditions. The creation of the online portal will certainly assist with this, but is not, we think, a substitute for agency research and assessment. To round out the DMTF and provide additional drought impact data, we recommend that a representative of a watershed association be named to it. Watershed groups bring expertise in local and watershed-wide conditions, and their members geographically diverse members routinely report to them about on-the-ground conditions.

### Drought Regions:

It is clear from the comments at Water Resources Commission that the local drought management plans on which MA Waterworks Association and the state are working, pertain to water supply resilience, not environmental resilience. While streamflow and groundwater will obviously factor into the development of those water supply-based drought management plans, the DMP text should draw this distinction.

CRWA understands the logic of dividing drought regions based on counties for efficacy of public messaging/communications; however, the DMP should make it clear that the DMTF will also examine and consider drought levels at the watershed hydrological scale. CRWA requests that you include some language on this in the DMP. The Charles is in two drought regions: Northeast and Southeast due to its location in Suffolk and Norfolk counties. Similarly, other watersheds span several counties, creating the anomaly that a watershed may well have different declared drought levels.

### Drought Management Mission Group

While coordination of response actions during drought through an interagency group will be useful on a day-to-day basis, our concern is that this group not add an unnecessary layer to drought assessment: assessment should remain the purview of the DMTF, a body with open meetings that reports publicly.

### Model By-Laws

At some point the MassDEP model by-law in the Appendix will need to be updated to align better with the DMP. The model by-law should include language on restricting private well irrigation so that communities choosing to regulate private well nonessential use during drought, have this technical assistance available to them. It would also be very useful for the model by-law to include suggested language for use by communities seeking to regulate direct withdrawals from surface waters, which is a growing problem. These under Water Management Act threshold withdrawals often have immediate impacts on streamflow and wetland resources, particularly direct withdrawals from small streams during the summer months.

Sincerely,



Margaret Van Deusen  
Deputy Director and General Counsel



February 25, 2018

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

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On behalf of the Charles River Conservancy, we appreciate the opportunity to share the following comments.

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- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future (page 7)*. This section provides detailed descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response in the state.

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#### Section 11: Plan Update and Maintenance

- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - “This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address a **drought**.”

#### Appendices:

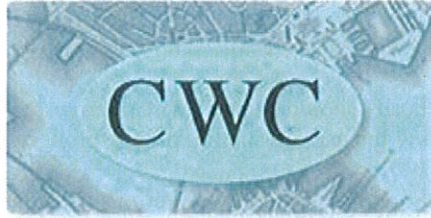
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- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.

Thank you for your time and consideration.

Sincerely,



Laura Jasinski  
Executive Director  
Charles River Conservancy



*Charlestown Waterfront Coalition*  
*P.O. Box 290533*  
*Charlestown, Massachusetts 02129*

February 25, 2018

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

Please thank staff and members of the Drought Management Task Force for the redraft of the Massachusetts Drought Management Plan. Some of the proposed changes will strengthen the state's speed and accurate responses to future droughts. However, the current proposals need to be stronger in certain areas.

The Charlestown Waterfront Coalition suggests the following:

#### Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future (page 7)*. The new climatic norms climate scientists anticipate are predicting an increase of droughts, which identifies the acute importance of state drought preparedness and speed of response.

#### Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that membership include:
  - (1) representatives from the watershed non-profit community. It is well positioned to support and expand the effort of state personnel, as they will have specific local expertise to share with Task Force members.
  - (2) a hydrologist from one the major Massachusetts universities or colleges. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.
- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under "MassDEP," the following change:
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  - “This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address a **drought**.”

The Charlestown Waterfront Coalition urges you to give serious considerations to these suggestions. Thank you for your time and consideration.

Sincerely,

Nancy Krepelka    Ivey St John    Bruce Swanton    Paul Sullivan    Jean Wilson

The CWC Steering Committee



**From:** Andrea Donlon [mailto:adonlon@ctriver.org]  
**Sent:** Monday, February 25, 2019 4:06 PM  
**To:** Rao, Vandana (EEA)  
**Subject:** MA Drought Management Plan comments

Dear Vandana,

I have run out of time to prepare a formal letter on the January 2019 Massachusetts Drought Management Plan but wanted to submit the following ideas.

1. Figure 6 shows the Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring. The Connecticut River Region and Central Region have a large area in the northern part of the state with no data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is truly reflective of conditions in each drought region.
2. Section 6.5 describes the roles and responsibilities of the Department of Agriculture Resources. Emphasis seems to be on monitoring crop losses and providing information about financial assistance, which does not seem to be a pro-active approach. CRC recommends that DAR also provide more information/assistance to farmers on how to use irrigation water wisely and efficiently. During the 2016 drought, farmers began withdrawing water from the nearest streams, sometimes broadcasting water during the hottest part of the day, which can further stress the river and potentially make fire-fighting water more scarce in rural areas – could DAR provide traveling water trucks or water efficient irrigation equipment? The “Farm and Market Report” has a regular section on Energy News. Could a similar thing be done for water?
3. CRC supports the more detailed comment letter submitted by the Massachusetts Rivers Alliance, of which we are an organizational member.

Thanks, Andrea

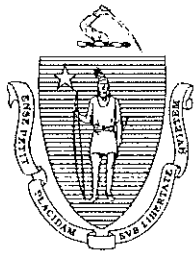
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ANDREA DONLON  
River Steward

**Connecticut River Conservancy**, formerly *Connecticut River Watershed Council*  
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*Clean Water. Healthy Habitat. Thriving Communities.*





# *The Commonwealth of Massachusetts*

HOUSE OF REPRESENTATIVES  
STATE HOUSE, BOSTON, MA 02133-1054

**CAROLYN C. DYKEMA**

STATE REPRESENTATIVE

8TH MIDDLESEX DISTRICT

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COMMITTEES:

VICE CHAIR

Transportation

Children, Families and Persons with Disabilities

Health Care Financing

Telecommunications, Utilities and Energy

February 25, 2019

Vandana M. Rao, Director of Water Policy  
Executive Director, Water Resources Commission  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114

Dear Dr. Rao:

Thank you for the opportunity to comment on the draft update of the Commonwealth's Drought Management Plan.

First, I would like to recognize the substantial time and effort that staff of the Executive Office of Energy and Environmental Affairs have dedicated to this significant undertaking. I greatly appreciate the ongoing leadership of Secretary Beaton and EEA staff on matters relating to the Commonwealth's water resources as well as the continued opportunity to work collaboratively on these issues.

After reviewing the draft document, I offer the following comments for your consideration:

## Section 3.1, Drought Levels (pg. 13)

- The revised nomenclature of the drought levels, particularly the renaming of the "Advisory" level as "Mild Drought," is an improvement to the plan that will facilitate clearer communication with the public regarding drought severity at an earlier point in time than is possible under the current system.

## Section 3.4-4.3, Drought Determination Methodology (pgs. 17-28)

- This provision adds increased transparency to the current process for determining drought conditions. The Task Force members' professional judgment and collaboration play an important role in ensuring that drought determinations reflect both the best available

scientific data and the specific needs of a particular drought region. This more robust explanation of the information considered by the Task Force will give the public greater insight into the careful deliberation and analysis that goes into the Task Force's recommendations.

Section 7.1, Table 9, "State Preparedness Actions" (pgs. 37-39)

- The detailed information outlined in this table highlights the ongoing and important work of our public health, safety, and environmental stakeholders at the state level. I would support additional clarity in distinguishing which elements of the table are part of this ongoing work versus which action items would be new tasks to be completed going forward.
- Under "Policy and Regulatory Action" (pg. 39): As you may know, at the beginning of the new legislative session in January I re-filed legislation proposing changes to the Commonwealth's policy with respect to planning for and mitigating the impacts of water scarcity due to drought. I look forward to seeing the legislative recommendations relative to statewide outdoor water-use controls that EEA will be drafting and request that my office be provided with a copy of these recommendations when they are finalized.

Section 7.2, Table 10, "State Drought Guidance" (pg. 40)

- I support the inclusion of these suggested non-essential outdoor water use conservation actions in the final plan. These actions align with guidance previously issued by EEA but not previously explicitly included in the Drought Plan.

Sections 7.2.1-7.2.4, State Agency Response Actions (pgs. 40-45)

- Under "Water Conservation": there are references to deploying nonessential water use restrictions at various agencies at Levels 1, 3, and 4. In each case, slightly different terminology is used to describe the action taking place and the affected entity (i.e., "implement" vs. "apply," "state entities" vs. "all agencies and institutions"). Consistency across the levels or clarity regarding the intended distinctions would be beneficial.
- Similar to my comment regarding the delineated preparedness actions, I would support clarifying which of the response actions are new versus which reflect the past work of state agencies during periods of drought.

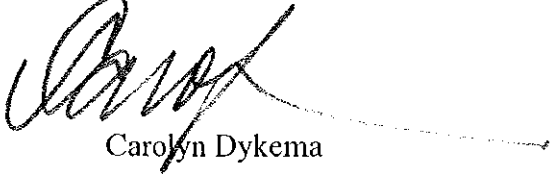
Section 8, Guidance for Communities (pgs. 46-54)

- The information included in this section is helpful and will provide municipalities with guidance as they consider their long-term water planning needs. However, some of the suggested municipal response actions would pose an economic challenge to businesses already significantly impacted by water scarcity and restrictions, including landscape professionals. I request that EEA give careful consideration to comments received from commercial agriculture in response to this draft. Landscaping practices have advanced

considerably with respect to water conservation, and new trees and shrubs provide environmental benefits. Thoughtful policy that considers and integrates best available water-efficiency technology and practices for commercial agriculture can address drought concerns while mitigating negative economic consequences on these businesses.

Thank you again for your significant work to update the Commonwealth's Drought Management Plan in light of lessons learned from the 2016-2017 drought. I appreciate your consideration of these comments, and I welcome the opportunity to continue to work with EEA on this important issue. If there's any way my office can be of assistance in crafting sensible water policy that reflects the needs of our communities and our environment, please do not hesitate to contact me.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Carolyn Dykema', with a long, thin horizontal line extending to the right.

Carolyn Dykema

CC: Matthew A. Beaton, Secretary, Executive Office of Energy and Environmental Affairs  
Sen. Anne Gobi, Senate Chair, Committee on Environment, Natural Resources and Agriculture  
Rep. Smitty Pignatelli, House Chair, Committee on Environment, Natural Resources and Agriculture



February 14, 2019

Vandana Rao, Executive Director  
Massachusetts Water Resources Commission  
100 Cambridge Street  
Boston, MA 02109

Dear Ms. Rao:

I am writing today on behalf of the Green Industry Alliance of Massachusetts, which is comprised of the Massachusetts Arborists Association (MAA), the Massachusetts Association of Landscape Professionals (MLP), the Massachusetts Association of Lawn Care Professionals (MALCP), the Irrigation Association of New England (IANE), and the Golf Course Superintendents Association of New England (GCSANE). Our mission is to promote awareness and educate the public, elected and appointed officials in the Commonwealth on best practices and professional standards in landscape, lawn care, irrigation, and integrated pest management.

The GIA would like to respectfully submit the following comments in response to reading the Draft Drought Management Plan.

We believe the draft plan successfully lays out a comprehensive set of actions to be taken by a variety of stakeholders to adequately prepare for and respond to drought conditions. We do not have any substantive comments of the draft plan itself but in going through the plan we had to follow through to other guidelines and recommendations as prescribed in the plan. Specifically, with Table 9: State Preparedness, the following items caught our attention:

- Water Conservation – Implement the standards and recommendations of the Massachusetts Water Conservation Standards at state facilities.
- Technical Assistance - Assist state facilities in implementing the standards and recommendations of the Massachusetts Water Conservation Standards, particularly in Chapters 5 (Residential/Indoor Water Use), 6 (Public Sector Water Use), Chapter 7 (Industrial, Commercial, and Institutional Water use) and 9 (Outdoor Water Use).
- Policy and Regulatory Action – Develop recommendations for legislation to implement statewide outdoor water-use controls. **We would like to be included in this process.**
- Policy and Regulatory Action – Evaluate barriers to and opportunities for reuse of graywater and reclaimed water. Review regulations an update, if needed. **We would like to be included in this process**



Section 8: Drought Preparedness and Response actions – Guidance for Communities, Action1: Develop a Water Conservation Program, item (2) Implement and Outdoor Water Use Program. We agree with the stated premise, that “A key factor in improving efficiency is proper design, installation and auditing (change auditing to: management) by professionals holding the appropriate certifications (by nationally recognized certification programs, such as EPA WaterSense-labeled certification programs).”

However, this section then refers to MassDEP’s Model Outdoor Water Use By-law/Ordinance, which includes inconsistencies with existing law (System interruption devices, MGL Chapter 21, Section 67) and the most recent Water Conservation Standards (Sections 9.1, 9.2), and Draft DMP itself as referenced above (Section 8). While we support the efforts of the DMTF and agree with the draft plan, we cannot support the direction to follow the Model Bylaw as written.

#### **MGL CHAPTER 21, SECTION 67**

This section defines "irrigation system" as any assemblage of components, materials or special equipment, which are constructed and installed underground or on the surface, for controlled dispersion of water from any safe and suitable source for the purpose of irrigating landscape vegetation or the control of dust and erosion on landscaped areas and shall include integral pumping systems and required wiring within that system and connections to a public or private water supply system; provided, however, that an irrigation system shall not include plumbing, as defined in section 1 of chapter 142, or a plumbing system.

We would recommend that the DEP Model Bylaw incorporate this definition to keep the terms consistent across the MGL, by-laws, and Water Conservation Standards. This definition and the requirement that the DEP develop regulations to require “system interruption devices for newly installed or renovated irrigation systems to override and suspend the programmed operation of the irrigation system during periods of sufficient moisture.” are found throughout the latest version of the WCS.

#### **WATER CONSERVATION STANDARDS**

We agree with the vast majority of recommendations found in Section 9 of the Water Conservation Standards that were updated in 2018. Under Section 9.1 (Standards) (3) Maximize the efficiency of irrigation, we wholeheartedly support the idea to “use best management practices (see Appendix I) and the best available technology along with regular system evaluation to ensure maximum efficiency of water use.”

Section 9.2 (6) recommends that Municipal Governments and Water Suppliers should adopt bylaws/ordinances, policies, or regulations that include a comprehensive and well thought out list of options that fit the description in Section 9.1. This list is also inconsistent with the DEP Model Bylaw and we strongly recommend that the bylaw be updated to reflect this more robust set of provisions.

We ask the WRC to note that it appears that Section 9.2 (6) is contradicted by item (5) of Section 9.1, which also suggests the adoption and implementation of a bylaw, ordinance or regulation that should limit the number of watering days per week and hours per day. While we agree it makes sense to limit the hours of the day to avoid watering during times with high evapotranspiration and increase watering efficiency, we do not support the idea of limiting ~~that~~ the number of days per week unless further qualified.

A bylaw that limits the number of days does not achieve the goal of reducing the total amount of water used for landscape watering. Instead, consumers tend to overwater on the days allowed, regularly exceeding the soils’ ability to store water and for the landscape to use the moisture efficiently. This goal



of reducing overall water use in the landscape would be better achieved by using Best Management Practices and the best available technology as suggested in 9.1 (3).

We respectfully request that the WRC and DEP consider developing a more specific and functional metric to limit outdoor water use by using a combination of number of days and an overall limit. For example, something like the statement below recognizes the technological capabilities of modern irrigation systems.

Further, we recommend that the DEP Model Bylaw be amended as follows:

Section 4 (Definitions) – Nonessential outdoor water uses that are subject to mandatory restrictions include:

- Irrigation of lawns via sprinklers or automatic irrigation systems **that are not programmed to limit the hours and days of operation and to not exceed the net application of 1-inch per week to the landscape over a period of no more than three days per week:**

Section 4 (Definitions) - Exceptions to nonessential outdoor water uses are:

- **Irrigation systems programmed to limit the hours and days of operation and to not exceed the net application of 1-inch per week to the landscape which may be applied over a period no of more than three days per week:**

Section 8 (Restricted Water Uses)

(c) Nonessential outdoor water use method restriction: Nonessential outdoor water use is restricted to a bucket or hand-held hose controlled by a nozzle, **or an irrigation system programmed to limit the hours and days of operation and to not exceed the net application of 1-inch per week to the landscape which may be applied over a period no of more than three days per week**

Section 15: Controls on In-Ground Irrigation Systems (Subsection xx.1 Registration and Installation)

We support the idea that all newly installed irrigation systems be registered with the Town and that the Board of Water Commissioners may require inspection of the systems. This is also consistent with Section 67 of Chapter 21 of the MGL, see below.

b) The department of environmental protection shall promulgate regulations that require system interruption devices for newly installed or renovated irrigation systems to override and suspend the programmed operation of the irrigation system during periods of sufficient moisture. The department shall specify the criteria for the system interruption devices. The regulations shall: (i) be in accordance with generally accepted standards of irrigation practice; (ii) include a requirement that system interruption devices be inspected at least every 3 years by an irrigation contractor certified and in good standing with a nationally recognized association; and (iii) require each irrigation contractor to complete and submit documentation, along with a reasonable fee, which shall reflect the costs of accepting and processing such documentation, to the municipality for each newly installed or renovated irrigation system within the municipality. The department may impose reasonable fines on an irrigation contractor for a violation of the regulations promulgated under this section.

(c) This section shall not apply to systems operating on agricultural lands.

Section 15: Controls on In-Ground Irrigation Systems (Subsection xx.2 Soil Moisture Sensor Devices)

Soil moisture sensor technology is expensive and difficult to understand from both an installation and programming standpoint. One soil moisture sensor installed on an irrigation system as suggested in the language is not practical as different plant types and exposures each require their own sensor. Additionally, many soil moisture sensors on the market do not work. This section should be amended as System Interruption Devices and made consistent with the Section 67 of Chapter 21 of the MGL.

Section 15: Controls on In-Ground Irrigation Systems (Subsection xx.3 Backflow Prevention)

We believe these devices are already required and fully defined under Chapter 142 of the MGL and the Plumbing Code (310 CMR), and is also referenced in the definition of an irrigation system, pursuant to Section 67 of Chapter 21 of the MGL. These sections do not appear necessary.

As always, we appreciate the opportunity to share our perspective on these important policy developments and remain eager to engage in further discussions as this process moves ahead.

Sincerely,

Stephen A. Boksanski, Executive and Legislative Agent  
Green Industry Alliance



February 25, 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Comments on Proposed Updates to the Massachusetts Drought Management Plan  
By EMAIL

Dear Ms. Rao,

Thank you, your staff, task force members and stakeholders who invested considerable time and effort to update the Commonwealth's Drought Management Plan. Given the critical need to address this issue in light of climate change and as exemplified by the drought of 2016 we feel an update is warranted and commend you for this effort. In general, we support all the proposed changes. We also would like to advocate for stronger measures to both better protect the environment and increase the resiliency of public water supplies considering the risks associated with drought. Specifically:

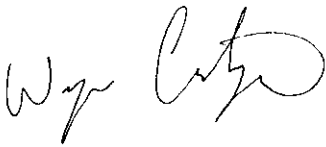
- We feel there should be timelier and stronger provisions made to protect water supplies and the environment in sub-basins that are already stressed according the Commonwealth's groundwater and biological categories. Restrictions and bans on non-essential water use should kick in earlier in such areas and ideally be driven by streamflow indicators.
- Stream flow indicators should be weighed more heavily in drought declaration decision-making.
- As an institutional member of the Rivers Alliance, we wholeheartedly endorse the detailed recommendations & comments made by the Rivers Alliance and incorporate those herein.
- Although this was perhaps outside the scope of the plan revision, we strongly recommend that more mechanisms and procedures be developed to better operationalize the plan and that non-essential water use restrictions need to be mandatory, at least in level 4 & 5 sub-basins.

With regard to this last point, we would like to offer some additional context. As you know, the drought of 2016 was especially impactful the northeast part of the State and to the Ipswich River Basin in particular which recorded its lowest stream flow in history. During that period, I was an active participant in the Drought Management Task Force as well as an outreach effort to increase awareness of the devastating impacts of the drought on the river which received national attention. Despite all the effort invested by task force members, being the worst drought on the river in history and its

impacts being widely recognized publicly as perhaps the biggest local story that year, we could not document a single on the ground measure that was implemented by a water supplier or municipality different than business as usual. In the Ipswich, more than 90% of all withdrawals are not subject to any water conservation restrictions at all, even during the worst drought in history. Without a parallel effort to operationalize the plan and requiring water restrictions and conservation measures during droughts, the new plan and the investment in resources made in convening and managing the Drought Management Task Force won't have as meaningful an impact as it needs to.

Thank you again for your fine work and for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Wayne Castonguay". The signature is fluid and cursive, with the first name "Wayne" written in a larger, more prominent script than the last name "Castonguay".

Wayne Castonguay  
Executive Director

February 25, 2018

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

We appreciate the substantial efforts that the staff and members of the Drought Management Task Force have undertaken to update the Massachusetts Drought Management Plan. We feel confident that many of the proposed changes will improve the state's timeliness and overall response to future droughts. We also recognize that there are a few areas where some of the current proposals could be strengthened in the draft Plan.

In addition, because the Town of Kingston is embarking on Municipal Vulnerability Preparedness planning, I believe that the Drought Management Plan would do well to make room to incorporate these plans, as I hope they will cover some necessary actions to make our communities more resilient, and ready for the changes underway in our environment.

I have also done my best with short time to review the DMP and have a list of comments specific to certain sections that document that I am appending to this letter. I hope that these will further expand your understanding of our difficulties due to the uniquely damaging transfer of vast quantities of water from Silver Lake, Monponsett and Furnace Ponds to the City of Brockton. Your attention to this problem that produces near annual drought is urgently requested.

On behalf of Jones River Watershed Association, we appreciate the opportunity to share the following comments.

#### Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future (page 7)*. This section provides detailed descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response in the state.

#### Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not currently include any representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. The watershed community is well



positioned to fill this role as it is well connected and individuals from this community have local expertise that they can share with the rest of the Task Force to ground statewide assessments.

- (2) a hydrologist from one the major Massachusetts universities or colleges. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.
- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under “MassDEP,” the following change:
  - “Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies”

### Section 3: Drought Assessment and Determination

- **Propose** that in *Section 3.1 Drought Levels (page 13)*, that “Level 1-Mild Drought” is changed to “**Moderate** Drought.” “Moderate” conveys a stronger sense of severity than “mild.” While we acknowledge that the U.S. Drought Monitor uses similar nomenclature for one of their drought levels, we feel strongly that the use of the term “mild” may lead some to think that the current drought conditions should not be taken seriously.
- **Propose** that in *Section 3.4.3 Streamflow (page 20)* “Figure 4: Massachusetts Stream Gage Network for Drought Monitoring,” that Drought Management Task Force staff reviews the current composition of the network gages. It appears that there are no gages in the Cape Cod and Islands Regions. If there are no options for gages in these areas, additional information should be provided in this section regarding how the Task Force will make assessments without any reporting data on this metric from these two regions.
- **Propose** that in *Section 3.4.5 Lakes and Impoundments (page 23)* “Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring,” the inclusion of additional data points for the network. The current listing includes primarily water supplies, with only a handful of lakes or impoundments. In addition, the number of data points is extremely limited in many of the regions. For example, both the Connecticut River Region and the Southeast Region have only two data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is truly reflective of conditions in the region.

### Section 4: Process of Determining Drought Status

- **Propose** in *Section 4.3 End of Drought (page 29)*, the following change:
  - “Determinations regarding the end of a drought focus on the precipitation and groundwater indices. **These metrics will be prioritized when evaluating declarations for the end of a drought.**”

### Section 5: Drought Communication

- **Support** the inclusion of *Section 5: Drought Communication (page 29)*. This additional information clarifies the communication responsibilities of all relevant state agencies and establishes a strong framework for engaging regularly with the public about water conditions.
- **Propose** in *Section 5.1 Communication Platforms (page 30)*, the addition:
  - “The following direct forms of communication will also be utilized, as appropriate... **Outreach to regional planning agencies**”



## Section 6: Summary of Responsibilities by State Agency

- **Propose** in *Section 6.4 Department of Environmental Protection (MassDEP) (page 45)*, the following change:
  - “MassDEP’s Water Management Act Program tracks the implementation of water use restrictions by **registered and permitted communities** across the state and regularly prepares maps showing the status of restrictions.”

## Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*. This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask that additional information is provided in this section regarding the timeline for implementation of the new tasks assigned to each respective agency and what entity will be responsible for overseeing the progress of each task.
- **Propose** in “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*, the following additions:
  - Under “Data Gathering, Analysis and Reporting” in the “MassDEP” category, “**Gather data on which municipalities have passed bylaws confirming their authority to require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells.**”
  - Under “Policy and Regulatory Action” in the “DMTF” category, “Review the *Massachusetts Drought Management Plan: Preparedness and Response* every five years **in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan** and update as needed.”
  - Under “Water Conservation” in the “All agencies” category, “**Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.**”
- **Support** the inclusion of “Table 10: State Drought Guidance” in *Section 7.2 State Agency Drought Response Actions (page 40)*. This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.
- **Propose** in “Table 11a: State Agency Drought Response Actions During a Level 1 Mild Drought” in *Section 7.2 State Agency Response Actions (page 42)* the following change:
  - “**Apply** the Massachusetts drought management nonessential outdoor water-use restrictions **to all state entities and encourage other water users to do the same.**”

## Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions (page 48)* “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 52)* “Action 2: Develop a Local Drought Management Plan” that additional information is provided

under subsection 4 “Establish Triggering Levels” to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.

- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” that a reference is made that financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program.

#### Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change:
  - “Municipalities **may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions.”

#### Section 11: Plan Update and Maintenance

- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - “This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address a **drought**.”

#### Appendices:

- **Support** the inclusion of *Appendix F: Private Wells-Frequently Asked Questions (page 67)*. This section provides greater clarity regarding the impact of private wells on aquifers and encourages conservation of all water resources during a drought, a crucial message to convey in communities that are currently not implementing outdoor watering restriction bylaws that include private wells.
- **Propose** in *Appendix F: Private Wells-Frequently Asked Questions (page 67)* the following change:
  - “During periods of drought, especially when conditions are severe (**Level 1 – Mild Drought and higher**)...”
- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.

Please see further attachment.

## 1.2 Scope and Applicability

p.6 *Coordination and drought mitigation actions outlined in the Plan are applicable to state agencies; local government; agricultural, industrial, commercial and institutional water users; and all residents of the Commonwealth.*

>Comment: Include communication with habitat restoration projects and programs, IE non-profit watershed and land conservation groups; Regional Planning Agencies: MMA

## 1.3 Background

### 1.3.1 Massachusetts' Climate - Past, Present and Future

>p.7 *Its climate is (has been or is generally) characterized by cold, snowy winters and warm summers.*

*Precipitation is generally spread fairly evenly across the months, with approximately 3- to 4-inch average amounts for each month of the year. The driest conditions in recorded history were observed in the early 1900s and again in the 1960s, with wetter conditions occurring since the 1970s. The driest five-year period was 1962-1966.*

>Comment: Where this is generally true, it is focused on averages, rather than seasonal swings that could bring challenging conditions like those in 2016-18. (this seems to be covered in the following, but could be clarified: “*Large storms add significantly to monthly and annual precipitation totals but unlike a similar amount of precipitation falling in multiple, smaller storms, they do not translate to significant groundwater replenishment or steady streamflows. Additionally, increased evaporation from warmer temperatures, alterations in the timing and magnitude of streamflow following reductions in snowpack, as well as changes in the amount, timing, and type of precipitation, may intensify naturally occurring droughts.*”

### 1.3.2 Drought Impacts

>Comment: should include/mention that repetitive droughts can weaken and stress forests and lead to substantial damage from storms as in the late winter of 2018 (March) when vast numbers of trees were uprooted and felled across the southeast coast.

### p.8 1.3.3 History of Drought in Massachusetts

>Comment: Emergency laws that were enacted in 1964 to address the drought have become “grandfathered” virtually assuring that repetitive conditions will result. (i.e Law expanding Brockton’s water supply was intended to lead to greater improvements in water supply for the City, but political conflicts and resistance have prevented improvement.



P 12 Table 1. *Responsibilities of State and Federal Agencies*

>Comment: No agency appears to evaluate stress on environmental assets other than water supply and man-made infrastructure. No agency steps in to call for water ban?—i.e. Jones River/Silver Lake in drought and serious low levels and Brockton is watering its sidewalks at city hall. (July 21, 2016, despite watering bans in Kingston and surrounding towns, Brockton had none.



DEPs role to:

- Declare water emergencies for communities facing public health or safety threats due to drought impacts to their water supply systems

>Comment: Does not cover the harm done to Silver Lake and Jones River from unnecessary water takings during droughts

### *Section 3: Drought Assessment and Determination*

#### *3.1 Drought Levels*

>Comment: The described levels and method assumes parity across regions rather than consideration of out of basin transfers that can radically exacerbate drought conditions in our region

#### *Table 3. Critical Information and Agencies or Organizations Responsible for Reporting*

>Comment: Believe forward thinking evaluation of forests—not only imminent fire danger, but impact on health of the forest which may cause storm damage later and need to address dangers from fallen trees to enable proactive management plan, and even jump start climate change readiness. Need more guidance and information to help the next generation forest evolve.

#### *P.23 Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring*

>Comment: This figure needs work. It does not include Silver Lake in Kingston, Pembroke, Halifax, Plympton, headwater of Jones River and Brockton's primary water supply. Nor does it include the seasonally contributing Monponsett Pond in Halifax or Furnace Pond in Pembroke, or Brockton's "Avon Reservoir". Nor does it include many of the other lakes and ponds of the region that could be used as reference ponds for drought calculation. WHY?

#### *Table 8. Notification List for State Agencies*

>Comment: EEA should also communicate with MMA, Regional Planning Agencies, Plymouth County (other) Commissioners, Central Plymouth County Water District, Watershed Associations and Conservation non-profits as these groups have additional capacity to inform members as others interested. Note that Table 9 does mention working with regional planning agencies

#### *5.3 Communicating with the Public*

>Comment: Press releases should state that TV news and Radio stations will be included—I see this is included later on Table 9

#### *6.3 Department of Conservation and Recreation (DCR)*

>Comment: wunderground.com seems to be developing a robust inventory of additional data points that could prove useful to this and other weather related efforts

#### *6.4 Department of Environmental Protection (MassDEP)*

*MassDEP oversees various aspects of water supply*



*MassDEP's Water Management Act Program tracks the implementation of water use restrictions by municipalities across the state and regularly prepares maps showing the status of restrictions. MassDEP Boston staff consults with regional Drinking Water Program staff to identify potential problem areas or identify specific Public Water System (PWS) issues. During periods of low streamflow, MassDEP corresponds with permit holders and all PWSs to encourage them to review their permit requirements, encourage additional conservation measures, and suggest that more stringent water-use restrictions be implemented. MassDEP's authority to declare local emergencies is outlined in detail in Section 10.2.1 of this plan.*

>Comment: this underscores the need to rectify incomplete information in the Southeast Region, poor interpretation of the WMA and incoherent “grandfathering” of water use that was expanded under the 1960’s emergency law that was never intended to systematically destroy regional resources through non-permitted interbasin transfers.

p. 36 *DFG's Division of Ecological Restoration (DER)*

*DER also coordinates with partners to adjust streamflow releases based on existing drought management/streamflow release plans.*

>Comment: Water Suppliers and municipalities should be required to partner with DER (and DFG) in order to develop resilient water management policies—i.e. BROCKTON

## 6.7 Department of Public Health (DPH)

*...such as impacts on private wells and recreational water quality impacts.*

Comment: Although in the early 1980’s those of us living on wells around Silver Lake were without water for more than six months and it was an extreme hardship for us and our animals. In addition, private wells impact the natural environment and resources as a direct result of unnecessary pumping from private wells for other than critical needs, and at inappropriate times during the day. Information should be conveyed to private well users relative to the interconnected condition of the aquifers, since generally people do not seem to understand that the water in this region is connected and their use impacts all. Might reference later discussion on private well regulations.

## 6.8 Department of Public Utilities (DPU)

>Comment: ...including regulation of tanker trucking for swimming pools and others, and bottle-water companies?

### *Table 9 Communication and Public Outreach*

*Develop educational leaflet for private well owners on drought response with actions such as checking well water levels, and conserving water.*

>Comment: Please include appropriate timing and proper watering strategies to conserve. Note, acknowledge and agree with Table 9—Policy and Regulatory need and Table 10 regarding non-essential out door water use.

#### 7.2.1 Level 1- Mild Drought

Comment: Note that Man-Made drought occurs most years in Jones River basin due to the extreme consumption and out of basin discharge by the City of Brockton that is seemingly accepted by EEA. So when precipitation levels signal a mild or moderate drought—we are heading for extreme and you do not acknowledge the damage this has and will continue to inflict on the ecosystem. Your entire period of record for the USGS Jones River gage is a period of record skewed by this man-made chronic annual drought impacting our natural resources.



Note above photo from January 2017 when rapid cold weather draw-down by Brockton caused an estimated 5-million freshwater mussel die off including several special concern species.





In 2017 Federally endangered Red-bellied cooter also found dead on Silver Lake with mussels, fish and other species.

## *Section 8: Drought Preparedness and Response Actions – Guidance for Communities*

### *8.1 Community Drought Preparedness Actions*

*Everyone has a role in preparing for and responding to a drought.*

>Comment: Right, so should we sue State agencies and responsible municipalities for failure to respond to known inadequacies of water supply and continued withdrawals that are directly responsible for exacerbating drought levels. Note lawsuits in Toledo and Detroit for irresponsible management by state officials. The writing is on the proverbial wall.

p.56 10.1 Local Government

*When determined by MassDEP that an emergency exists in the case of a drought or disaster, a municipality may, following appropriate notice, regulate or otherwise restrain the use of water on public or private property (regardless of whether the supply source is public or private) pursuant to G.L. c. 40, § 41A, even in the absence of an established bylaw or ordinance. Additionally, once a state of water emergency is declared and MassDEP has approved a plan to address the emergency, the operator of the public water system may take by eminent domain the right to use any land for the time necessary to use water on the land for addressing the emergency. M.G.L. c. 21G, § 16.*

>Comment: Been there in the early and mid-1980's where the City of Brockton took additional water from the Jones River basin for discharge to the Taunton River via Brockton supply. The State (DEP) must recognize after thirty years of Emergency Declarations and Consent Orders requiring limited expansion of that system, all of the cyanobacteria and health challenges in Monponsett and Furnace Ponds, the lack of motivation in the City by ever changing politicians, and failure to plan for and USE additional supplies efficaciously in order to avoid and prevent near annual water emergencies. This Plan kicks a warped can down the crushing lane.



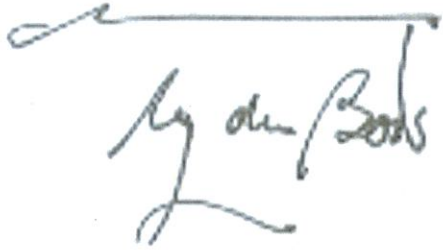
Water from 2 miles east piped into Silver Lake through lead lined civil defense pipes in 1981-83, 85~88. Brockton sought Interbasin transfer act permit from the WRC that was denied in about 1991, because the area is not equipped to sustain Brockton needs. Now Brockton has Aquaria desal on the Taunton River after years of state involvement and intervention, it is seldom used. This is a Crime.

The Acts of 1964 allowing the diversion of the recreational ponds in Halifax and Pembroke (Monponsett and Furnace) and establishing the Central Plymouth County Water District Commission was AN EMERGENCY LAW, but it still governs the condition of our water and natural resources and causes this region to be more vulnerable to droughts and climate change.



Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in dark ink, appearing to read "Lynda Bous". The signature is written in a cursive style with a horizontal line above the name.



208 South Great Road, Lincoln, MA 01773  
781.259.2172 [hricci@massaudubon.org](mailto:hricci@massaudubon.org)

February 25, 2019

Vandana Rao, Water Policy Director  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Via Email: [vandana.rao@mass.gov](mailto:vandana.rao@mass.gov)

Re: **2018 Massachusetts Drought Management Plan: Preparedness and Response**

Dear Vandana

On behalf of Mass Audubon, I submit the following comments on the proposed update of the Massachusetts Drought Management Plan. Mass Audubon also supports the detailed comments submitted by the Massachusetts Rivers Alliance, of which we are a member organization.

We appreciate the effort that has been put into updating this important plan, following the drought of 2016-17. Mass Audubon supports the updated Plan, and offer a few suggestions for further refinement before it is finalized.

#### Climate Change

The Plan highlights the effects climate change is having on precipitation patterns. It acknowledges that more intense bursts of precipitation do not provide the same degree of groundwater recharge provided by the same amount of precipitation falling with less intensity over longer periods of time. This change, combined with more frequent droughts, places additional stresses on the capacity of water supplies to meet the needs of both people and ecosystems. Impervious surfaces further exacerbate these climate-related stresses. The linkages between land use and water management should be acknowledged in the Introduction section along with climate change.

The Plan places an emphasis on advance preparedness and includes recommendations for communities to develop local drought management plans in advance. The final Plan should include references to the state's Municipal Vulnerability Preparedness (MVP) Program and should encourage communities to include water conservation and drought management considerations in their MVP plans. MVP action grants could be considered as one potential option for funding detailed local water and drought management plans and related actions such as updating local land use rules.

## Land Use Planning

Section 8 of the Plan connects drought management planning with more general, ongoing water conservation planning and actions. This is beneficial, since many subwatersheds are in a near continual state of groundwater depletion and reduced streamflows due to excessive water supply withdrawals. Urbanization and impervious surfaces also reduce the capacity of land to infiltrate water and recharge groundwater supplies.

As noted above, we recommend that the connections between land use and water management be mentioned early in the document as well as in the later planning sections. Reducing the effective imperviousness of land and employing Low Impact Development techniques in all new development and redevelopment would be beneficial under all conditions, whether during droughts, floods, or on a regular ongoing basis. Preserving natural vegetation wherever possible and utilizing native plants for landscaping can also reduce the use of potable water for irrigation.

In addition to working with their regional planning agencies, watershed associations and other nonprofit conservation groups can support communities in protecting and restoring the capacity of land to retain and filter water. The MVP program is another resource for local bylaw and regulatory reviews and updates as well. Mass Audubon has developed a bylaw review tool that is available for free through the MVP program.

We recommend that the state make a commitment to compile information on local bylaws, including those providing local authority to enforce nonessential watering restrictions, and to regulate the use of private wells.

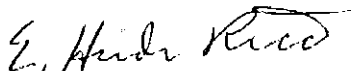
## Drought Management Task Force

We recommend that the composition of the task force be modified to add at least one representative from the nonprofit watershed community and one hydrology expert from a university.

The final Plan should also clarify that EEA has the authority to declare a drought when the indices warrant it, even if it is not able to convene the task force in a timely manner. Declarations should not be delayed due to such administrative or logistical delays.

Thank you for your work on this Plan, and for considering these comments.

Sincerely,



E. Heidi Ricci  
Assistant Director of Advocacy



# MASSACHUSETTS Rivers Alliance

2343 Massachusetts Ave, Cambridge, MA 02140  
617-714-4272 • [www.massriversalliance.org](http://www.massriversalliance.org)

February 25, 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Dr. Rao,

Thank you for the opportunity to comment on the proposed updates to the Massachusetts Drought Management Plan.

The Massachusetts Rivers Alliance is a statewide environmental advocacy organization whose mission is to protect and improve rivers and streams across the Commonwealth. The Alliance is comprised of 74 member organizations and collectively represents hundreds of individual members.

We would like to first acknowledge the hard work of the staff and members of the Drought Management Task Force in updating this plan. We feel confident that many of the proposed changes will improve the state's timeliness and overall response to future droughts. However, in our view, there are also areas where some of the current proposals should be strengthened in the draft Plan.

Our comments and requested changes are as follows:

## Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future (page 7)*. This section provides detailed descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response in the state.

## Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that the composition of the Drought Management Task Force is modified to include:

- (1) a representative from the watershed non-profit community. The task force lacks a representative who can speak with authority on and on behalf of the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they lack the time and resources to monitor and report on all regions in the state. A representative from the watershed community would be well positioned to fill this role, particularly one who is connected to other watershed groups throughout the state and can provide a broad perspective from groups that have been carefully monitoring conditions in their watersheds. This individual's expertise could be shared with the rest of the Task Force to ground statewide assessments.
- (2) a hydrologist from one of the major Massachusetts universities or colleges. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.
- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under "MassDEP," the following change:
  - "Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies"

### Section 3: Drought Assessment and Determination

- **Propose** that in *Section 3.1 Drought Levels (page 13)*, that "Level 1-Mild Drought" is changed to "**Moderate** Drought." "Moderate" conveys a stronger sense of severity than "mild." While we recognize that the U.S. Drought Monitor uses similar nomenclature for one of their drought levels, we feel strongly that the use of the term "mild" may lead some to think that the current drought conditions should not be taken seriously. We acknowledge that our past comments indicated that "mild" would be an acceptable alternative. We have since changed our position upon further reflection and input from our member organizations.
- **Propose** that in *Section 3.4.3 Streamflow (page 20)* "Figure 4: Massachusetts Stream Gage Network for Drought Monitoring," that Drought Management Task Force staff review the current composition of the network gages. It appears that there are no gages in the Cape Cod and Islands Regions. If there are no options for gages in these areas, additional information should be provided in this section regarding how the Task Force will make assessments without any reporting data on this metric from these two regions.
- **Propose** that in *Section 3.4.5 Lakes and Impoundments (page 23)* "Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring," includes additional data points for the network. The current listing primarily includes water supplies, with only a handful of lakes or impoundments. In addition, the number of data points is extremely limited in many of the regions. For example, both the Connecticut River Region and the Southeast Region have only two data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is truly reflective of conditions in the region.

### Section 4: Process of Determining Drought Status

- **Propose** in *Section 4.3 End of Drought (page 29)*, the following change:



- “Determinations regarding the end of a drought focus on the precipitation and groundwater indices. **These metrics will be prioritized when evaluating declarations for the end of a drought.**”

#### Section 5: Drought Communication

- **Support** the inclusion of *Section 5: Drought Communication (page 29)*. This additional information clarifies the communication responsibilities of all relevant state agencies and establishes a strong framework for engaging regularly with the public about water conditions.
- **Propose** in *Section 5.1 Communication Platforms (page 30)*, the addition:
  - “The following direct forms of communication will also be utilized, as appropriate... **Outreach to regional planning agencies**”

#### Section 6: Summary of Responsibilities by State Agency

- **Propose** in *Section 6.4 Department of Environmental Protection (MassDEP) (page 45)*, the following change:
  - “MassDEP’s Water Management Act Program tracks the implementation of water use restrictions by **registered and permitted communities** across the state and regularly prepares maps showing the status of restrictions.”

#### Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*. This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask that additional information is provided in this section regarding the timeline for implementation of the new tasks assigned to each respective agency and what entity will be responsible for overseeing the progress of each task.
- **Propose** in “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*, the following additions:
  - Under “Data Gathering, Analysis and Reporting” in the “MassDEP” category, **“Gather data on which municipalities have passed bylaws confirming their authority to require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells.”**
  - Under “Policy and Regulatory Action” in the “DMTF” category, **“Review the Massachusetts Drought Management Plan: Preparedness and Response every five years in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan and update as needed.”**
  - Under “Water Conservation” in the “All agencies” category, **“Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.”**
- **Support** the inclusion of “Table 10: State Drought Guidance” in *Section 7.2 State Agency Drought Response Actions (page 40)*. This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to

communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.

- **Propose** in “Table 11a: State Agency Drought Response Actions During a Level 1 Mild Drought” in *Section 7.2 State Agency Response Actions (page 42)* the following change:
  - “**Apply** the Massachusetts drought management nonessential outdoor water-use restrictions **to all state entities and encourage other water users to do the same.**”

#### Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions (page 48)* “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 52)* “Action 2: Develop a Local Drought Management Plan” that additional information is provided under subsection 4 “Establish Triggering Levels” to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” that a reference is made that financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program.

#### Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change:
  - “Municipalities **may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions.”

#### Section 11: Plan Update and Maintenance

- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - “This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address **a drought.**”

#### Appendices:

- **Support** the inclusion of *Appendix F: Private Wells-Frequently Asked Questions (page 67)*. This section provides greater clarity regarding the impact of private wells on aquifers and encourages conservation of all water resources during a drought, a crucial message to convey in communities that are currently not implementing outdoor watering restriction bylaws that include private wells.

- **Propose** in *Appendix F: Private Wells-Frequently Asked Questions (page 67)* the following change:
  - “During periods of drought, especially when conditions are severe (**Level 1 – Mild Drought and higher**)...”
- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.

Thank you for your time and consideration. We look forward to working with you and the rest of the staff and members of the Task Force to continue to improve our state’s responsiveness to drought conditions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Gabby Queenan". The signature is fluid and cursive, with a large initial "G" and a long, sweeping underline.

Gabby Queenan  
Policy Director

**From:** Julia Blatt [mailto:juliablatt@massriversalliance.org]

**Sent:** Wednesday, February 27, 2019 12:52 PM

**To:** Rao, Vandana (EEA)

**Cc:** Gabby Queenan

**Subject:** Re DMTF representation

With respect to Jen Pederson's comment that there is already an environmental representative on the Drought Management Task Force, and that the rest of us should do a better job of coordinating with Lexi, I would like to point out that WSCAC's purview is limited to the MWRA and its customers, which leaves out great swaths of the state. Droughts affect the whole state, not just the parts served by the MWRA. It would better serve the state's rivers to include a representative from a statewide organization such as Mass Rivers or The Nature Conservancy, or from a watershed not wholly served by the MWRA.

Julia Blatt

Executive Director  
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[Join Mass Rivers Today!](#)

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# MASSACHUSETTS WATER RESOURCES AUTHORITY

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Frederick A. Laskey  
Executive Director

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February 25, 2019

Vandana Rao, Ph.D.  
Director of Water Policy  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114

Subject: Draft Massachusetts Drought Management Plan

Dear Ms. Rao,

The Massachusetts Water Resources Authority (MWRA) appreciates the opportunity to comment on the draft Massachusetts Drought Management Plan (the Plan). Established by an Act of the Legislature in 1984, the MWRA provides water and wastewater services to more than 3.0 million people throughout the Commonwealth. MWRA's water sources are the highly protected Quabbin Reservoir, with a maximum capacity of 412 billion gallons, and Wachusett Reservoir, with a maximum capacity of 65 billion gallons. MWRA's water system also includes a seasonal diversion from the Ware River, underground covered storage facilities, deep rock tunnels, aqueducts and large transmission mains. The system supplies an average of 200 million gallons per day (mgd) to MWRA customers in water service communities and has a safe yield of approximately 300 mgd.

While the plan strikes a balance between acknowledging geographical system specifics though a regional communication approach, it does not necessarily work for the MWRA system. MWRA's sources are in a separate region from our users, and our system responds differently to varying climatic conditions. Further, MWRA's Enabling Legislation, Chapter 372 of the Acts of 1984, allows MWRA to assess water supply conditions based on the capacity of its system, hydrological conditions of its reservoirs, and internal operating procedures. For these reasons, drought levels within MWRA's water service area may be different than other areas of the state. Further, MWRA's large multi-year reservoir system responds to drought and surplus very differently than typical smaller surface suppliers and groundwater sources. Given its multi-year storage and demand that is well below its safe yield, MWRA's system can "ride through" a drought that would cripple smaller reservoir systems and remain relatively full. For large sustained droughts, MWRA is likely to actually enter drought status much later than other suppliers and may remain below normal, longer. Additionally, MWRA's system response is different from what is outlined in the Plan, meaning that MWRA communities may have different water use restrictions than non-MWRA communities during periods of drought. Thus, the MWRA needs a drought plan that has triggers and responses which are tailored to MWRA's unique circumstances. **As a result, MWRA has its own Drought plan approved by The Massachusetts Department of Environmental Protection (MassDEP) that is separate from the statewide Drought Management Plan.**



It is important for clear public communication that all sections of the state drought plan be clear that the MWRA system has its own drought triggers and responses. In particular, every map should include an overlay of the MWRA communities with a clear notation that indicates that the separate MWRA drought plan applies. For example, *Section 2* of the Plan should note that MWRA can initiate its Drought plan for its 46 water service communities in Boston, MetroWest and Chicopee Valley, and *Table 2* in *Section 3* of the Plan should include a footnote identifying the number of MWRA communities in each specific Drought Region. To better assist the public, MWRA also recommends that *Appendix F - Frequently Asked Questions*, include a question such as: "I live in the MWRA service area, how does the Secretary of EEA's drought response guidance apply to me?"

MWRA supports the drought indices revision in *Section 3.4* for "lakes and impoundments." As discussed at the at the February 14, 2019 WRC Meeting, a table should be added in the appendix of the Plan providing more information about each of the approximately 20 "lakes and impoundments" for use by Drought Management Task Force (DMTF) decision makers. This additional information should include surface area, storage volume, maximum and average depth, and average daily withdrawal and demand. A similar table should also be included in the appendix of the Plan with more information on the approximately 90 Groundwater Monitoring Wells for use by DMTF decision makers. This information should include well depth, general geological formation, and period of record for each well. In *Section 3.4.5 Lakes and Impoundments*, a sentence should be added at the end of the first paragraph stating that "Alternatively, some reservoir systems may show drought impacts earlier given the shallow nature of their impoundments".

In *Tables 9, 11b, 11c* and *11d*, the *Technical Assistance* sections should identify MWRA Emergency Connections as a last step, with DEP-approval (per Sections 10.2.3 and 10.2.4), to avert local crisis. The map of MWRA Water Supply Communities in *Appendix G* should be reoriented to full-page landscape for better view. Town names and county boundaries should also be added to this map. Finally, MWRA has a solid network of rain gauges that could be incorporated into the Precipitation Monitoring Network to strengthen Drought Monitoring. Please contact us if that would be of use to EEA.

On behalf of the MWRA, thank you for the opportunity to provide comments on the draft Drought Management Plan. MWRA staff would be pleased to meet with EEA and Water Resources Commission staff to further discuss how to best integrate MWRA's recommendations into the state-wide plan. In the meantime, please do not hesitate to contact me at 1 (617) 788-4958 with any questions or concerns.

Sincerely,



David W. Coppes, P.E.  
Chief Operating Officer





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February 25, 2019

Vandana M. Rao, Ph.D.  
Asst. Director for Water Policy  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114

**RE: Comments on Revisions to the Massachusetts Drought Management Plan (draft January 2019)**

Via Electronic Mail to [Vandana.rao@mass.gov](mailto:Vandana.rao@mass.gov)

Dear Dr. Rao:

Massachusetts Water Works Association (MWWA) is a non-profit membership organization of water supply professionals. With over 1,200 members throughout the Commonwealth, our organization's mission is to provide education and advocacy to water systems and to promote a safe and sufficient supply of water for the Commonwealth's residents and businesses. MWWA is pleased to be a member of the Drought Management Task Force (Task Force) so that we can provide input on water supply issues.

As a member of the Task Force, MWWA wishes that the Executive Office of Energy and Environmental Affairs (EEA) had first convened the Task Force to go over these changes to the Massachusetts Drought Management Plan (Drought Plan) so that questions could have been asked before the draft was put out for public comment. MWWA also wishes to note that it is difficult to provide comment on the Drought Plan when the document is incomplete. *Appendix D: Drought Level Indices and Methodologies* needs to be provided so that it can be evaluated by MWWA's Technical Committee before the plan is finalized. We are making the following comments without having reviewed this important appendix; therefore, we reserve the right to make modifications to our comments based on that information.

Understanding how important it is for water systems to be prepared for potential drought conditions, MWWA would recommend that every Community Public Water System have a system-specific Water System Resiliency or Drought Response Plan within their Emergency Response Plan. Such a plan would outline system-specific drought triggers and

appropriate response actions on the part of the utility and its customers. We have been working with EEA staff and a group of Public Water Systems to craft guidance on what metrics should be evaluated in a system-specific Resiliency/Drought plan. We hope to have that guidance completed soon. In addition to tracking certain metrics, a system-specific Resiliency/Drought plan should identify available interconnections with neighboring water systems and appropriate agreements should be in place to ensure that those interconnections can be used if needed. While some water systems may already have such Resiliency/Drought plans in place, many may not. MassDEP and/or the Department of Conservation and Recreation's (DCR) Office of Water Resources should provide technical assistance and/or financial assistance to water systems to develop system-specific Resiliency/Drought Management Plans. While we agree that the State should provide some level of coordination over multiple sectors, drought triggers and response actions are more appropriate at the local level. Water systems are in a much better position to dictate response actions to their customers based their specific conditions and on available supply. We strongly urge EEA to leave specific response action mandates out of the State Drought Plan. Water systems are diverse, their source of supply and customer profiles vary and they should not be lumped into a one-size-fits-all Drought Plan for the State. Only if a system does not have a system-specific Resiliency/Drought plan should they have to default to the actions in the State Drought Plan.

We offer the following specific comments for consideration by the Task Force and EEA as you contemplate adoption of a final Massachusetts Drought Management Plan (Drought Plan).

### **Section 3: Drought Assessment and Determination**

**3.1 Drought Levels** – MWWA agrees with the new nomenclature that is being proposed to communicate the various drought stages.

**3.2 Drought Regions** – MWWA appreciates that EEA is trying to align Drought Regions with County boundaries, but we question the rationale for taking Brookline out of Southeast and including it in Northeast. The state purports that county alignment will facilitate more streamlined communication and response and therefore moving Brookline seems to contradict that goal.

Within this section, MWWA is concerned with the statement: *"During a Drought, these regions may be adjusted based on the particular conditions of the drought. For example, drought analyses may be performed and declarations made on an individual county or watershed basis."* We question if EEA really has enough individual data points in each watershed to make such declarations and further, we are concerned about communication challenges if declarations are made on a sub-region or partial region basis. Also, the language contained in this section seems to contradict the language in 4.2 which states that the Secretary will make declarations based on each *"Region"* in the Commonwealth.

MWWA appreciates that EEA has moved the Islands into their own region as the islands are hydrologically distinct from the Cape Cod Basin. However, we still believe that Martha's Vineyard and Nantucket should be classified as independent regions. As we saw during the 2016 Drought, Nantucket received surplus precipitation, yet it was lumped into a drought declaration because the region encompassed both the Cape and Islands. Because each island has its own unique characteristics they should be evaluated separately. Further, it was recognized that some of the indices in the current plan are not appropriate for Cape Cod, such as streamflow measurements. Cape Cod, the Islands, and even portions of the Plymouth-Carver Aquifer are very unique in terms of their aquifer characteristics. In 2016, many of the region's suppliers reported that they had ample water, yet the state was urging restrictions on use. We urge EEA to look at whether there are more appropriate indicators for a particular region, rather than a standard slate of indicators across the Commonwealth.

#### **3.4.1 Methods for Calculating Indices:**

As part of its monthly hydrologic conditions reporting, EEA will be calculating the indices on a monthly basis regardless of drought situations. While emphasis has been placed on tracking below normal conditions, MWWA suggests that there needs to be a way for EEA to show if the metrics of an index are much above normal (i.e. surcharging streams, increased precipitation over normal, and higher groundwater levels than normal). This may help the Task Force evaluate conditions, especially when coming out of a drought.

MWWA is concerned by the statement *"Index severity for a region may be adjusted from the calculations based on best professional judgement."* The plan must be based on science and fact. At past Drought Task Force meetings, anecdotal evidence has been brought into the discussion; when that happens, we run the risk that subjectivity is introduced and decisions may not be based in science or fact. We suggest that EEA strike this sentence from the plan.

#### **3.4.4 Groundwater:**

MWWA knows that EEA and the United States Geological Survey (USGS) have been working to upgrade many of the monitoring wells in the network. MWWA also recalls discussions about assembling an inventory of well characteristics that could be referred to when looking at a particular well, such as the geologic conditions where it is installed, narrative on how the well was selected for the network, period of record, land use around the well, depth to groundwater, etc. This information should be included as an appendix in the Drought Plan. Further, it is very important that the wells be maintained and that the information be periodically validated to ensure that these wells are representative of natural conditions and are not impacted by outside influences. We suggest the plan include a narrative about how this validation will be done.

#### **3.4.5 Lakes and impoundments:**

MWWA appreciates that EEA is recognizing that this index should not focus solely on reservoirs. As we have indicated in the past, the current network may be far too small to

serve as a meaningful indicator of surface water conditions across the region. We suggest expanding the network to include more data points. In evaluating the suitability of a surface water body for this network, really any surface water body that has releases, is artificially controlled or may have operational changes should not be included, as they may not be indicative of natural conditions. We encourage DCR to look at their own network of surface water bodies and include water bodies that are representative of natural conditions. We concur with the suggestion made by John Gregoire at the Water Resources Commission meeting on February 14<sup>th</sup> to develop an inventory of the characteristics of the surface water bodies, similar to what is being done with Groundwater wells and include it as an appendix in the plan.

### **3.4.7 Evapotranspiration**

EEA acknowledges that the Crop Moisture Index has limitations for Massachusetts. MWWA suggests that rather than using something that has questionable value for Massachusetts, EEA should eliminate the Crop Moisture Index until a better indicator of evapotranspiration can be identified.

## **Section 4: Process of Determining Drought Status**

### **4.1 DMTF Deliberation and Drought Recommendations:**

In the current drought plan, and in past practice, a majority of the indices in a region would need to be triggered for a drought declaration. EEA seems to be moving away from that approach in the new plan. It feels to MWWA, as if declarations could be more prone to subjectivity. Perhaps EEA should consider documenting and weighting the indices by season so it will be clearer what the triggers will be for declarations. Declarations of drought have significant operational and economic impacts to the Commonwealth and therefore must be based on scientific data and not anecdotal evidence. Indices are measured and tracked for a reason and specified trigger points should dictate how drought declarations are made.

### **4.3 End of Drought:**

The current plan states that *"in order to return to a normal status, groundwater levels must be in the normal range and/or one of two precipitation measures must be met. The precipitation measures are: 1) three months of precipitation that is cumulatively above normal, and 2) long-term cumulative precipitation above normal."* MWWA believes the new Drought Plan should also make reference to these metrics for coming out of a drought.

## **Section 7: Drought Preparedness and Response Actions of State Agencies:**

### **7.1 State Agency Drought Preparedness Actions:**

In the table on page 40, under Policy and Regulatory Action *"Develop Recommendations for legislation to implement statewide outdoor water-use controls."* MWWA questions why EEA believes it is necessary to pursue legislative action to implement statewide controls? In an Emergency Declaration, the Governor has the authority to institute controls as is illustrated in the description of his powers on page 57. As written, it is unclear that this



legislation would be restricted to outdoor water use controls during a drought; MWWA suggests that if this language remains, it be made clear that it is for a drought. MWWA also questions what sector EEA is looking to control with this legislation (i.e., state entities, public water supply, private well users)?

## **7.2 State Agency Drought Response Actions:**

It was stated during the presentation at the Water Resources Commission meeting on February 14<sup>th</sup> that this section applies to State Agencies and is guidance for other entities, but that is not how MWWA reads this section, especially with respect to non-essential outdoor water use restrictions. In fact, on page 40 it states *“The actions in Table 10 below apply to all outdoor water users and represent one of the most effective ways to minimize the impacts of drought on water supply and the environment.”* If this section was intended to apply to state agencies, then this section needs to be clearer in its intent and the above sentence should be modified to say *“The actions in Table 10 below apply to outdoor water use at properties and facilities owned by the state and represent one of the most effective ways to minimize the impacts of drought on water supply and the environment.”*

With respect to the actions required in Table 10, MWWA feels some modification is necessary. Because we are not reading that these restrictions apply solely to state agencies, we wish to point out that many water suppliers hold Water Management Act permits and conditions already exist in those permits (and through the Regulations 310 CMR 36.00) to restrict non-essential outdoor water use. In some permits, further reductions in use are triggered upon a declaration of Drought Advisory. Under the new Water Management Act regulations, permittees will be required to restrict use to one-day per week when a reference stream gage hits a seven-day low flow. This was touted by the watershed groups as being more responsive to actual conditions and will be required regardless of whether or not a drought declaration is made by the State. As previously stated by MWWA, one day per week of watering is a very stringent condition which, if imposed, represents a very high bar to reach, particularly in the area of public acceptance and implementation. Therefore, we propose that in Table 10, State Drought Guidance, the actions should be modified to the following:

- **Level 1:** Voluntary Odd/Even (or equally restrictive or equivalent) Watering Restrictions after 5 PM or before 9 AM
- **Level 2:** Mandatory Odd/Even (or equally restrictive or equivalent) Watering Restrictions after 5 PM or before 9 AM
- **Level 3:** 1 day per week watering (or equally restrictive or equivalent), after 5 PM or before 9 AM
- **Level 4:** Ban on all non-essential outdoor water use

There are some communities that impose what could be considered more restrictive outdoor water use restrictions than 1 day per week by limiting use to no more than 4 hours in a week, but over two days, which is why we are suggesting the language “or equally restrictive or equivalent.” Also there needs to be language in this section which recognizes

that for those with Water Management Act Permits, permit conditions on non-essential outdoor water use shall supersede this guidance. We also suggest that language be added which recognizes that Public Water Systems with system-specific Resiliency/Drought plans should follow their plan's triggers and associated response actions rather than the State Plan.

MWWA also cautions EEA to consider the unintended water quality consequences that might occur should Public Water Systems have adequate capacity but have to comply with water use restrictions. Conservation and water use restrictions can contribute to increased water age and perhaps cause Safe Drinking Water Act (SDWA) compliance issues for a water system. Our members' core responsibility as water suppliers is to provide the most essential service to their customers - clean, safe drinking water. Water systems must adhere to rigorous water quality standards established under the SDWA to ensure protection of public health. They play a key role in providing fire protection within the community; and for that reason, storage reservoirs must be kept full and system pressure maintained. They must constantly balance water quality and quantity demands, especially during the summer months. EEA should add some language to the Drought Plan that states that Public Water Systems who are challenged by maintaining compliance with SDWA requirements can submit documentation to MassDEP for a waiver from the requirements to restrict nonessential use.

**In Tables 11a-d:** There appear to be inconsistencies in the language in these tables in the "Water Conservation" sections, especially if the actions are specific to state agencies. In **Table 11a** it says *"Implement the Massachusetts drought management nonessential outdoor water-use restrictions."* This really should say "Implement the Massachusetts drought management nonessential outdoor water-use restrictions at state properties and facilities." If Table 11a applies only to state agencies then *"Advise Local Governments to introduce outdoor watering restrictions, if not already in place"* should be stricken.

In **Table 11b**, *"Continue water conservation activities of Level 1"* is not consistent with the Table 10 chart, which has outdoor watering being limited to hand-held hoses only at a Level 2 drought stage; shouldn't it say instead "Apply next level of water use restrictions at all state properties and facilities"? As with our comment above, *"Advise local governments to implement next-stage watering restrictions"* should be stricken.

In **Table 11c**, *"Advise local governments to implement next-stage watering restrictions, including bans on nonessential outdoor uses"* and *"Advise all self-supplied users, including private well users, to initiate mandatory nonessential water use restrictions"* should be stricken. MWWA questions why *"apply the Massachusetts drought management nonessential outdoor water-use restrictions to all state entities"* first appears at the Critical Drought level, should it not start at the Mild Drought stage or should this be the language which consistently appears in Tables a, b and c as it relates to nonessential water use restrictions?

In **Table 11d**, when it gets to an Emergency stage, aren't you really wanting to restrict some **essential** uses at this point to get to the 15% reduction? You already have implemented mandatory nonessential water use restrictions in the previous stages so at this point you would be limiting things like shower time, using paper products instead of washing of dishes, etc. As with the comments above, if these actions apply to state agencies, then *"All self-supplied users, including private well users, will continue mandatory nonessential water use restrictions"* should be stricken.

In **Tables 11 c and d**, MWWA also suggests changing the wording from *"all public waterworks"* to "Public Water Systems" which is the commonly used term by MassDEP.

## **Section 8: Drought Preparedness and Response Actions – Guidance for Communities**

### **Section 8.1 Community Drought Preparedness Actions:**

MWWA questions the emphasis placed on *"Provide Incentives for Water Efficiency through Effective Water Rates."* It seems misplaced in this section and especially as the first action highlighted when the others listed, like implementing an outdoor water use program or implement a water loss control program have a much better chance of reducing water waste.

In **Section 2: Develop a Local Drought Management Plan**, As we stated at the beginning of our comments, MWWA agrees that it is very important for Community Public Water Systems to have their own system-specific resiliency/drought management plan and we have been working with EEA and DCR to develop guidance for systems. In 3. *"Assess Options for Balancing Supply and Demand"* there is a typo in that it says *"Here we highlight 10 actions..."* and there are 11 listed below.

In **Table 12**, MWWA suggests replacing the language related to nonessential outdoor watering with our recommendation from above:

Level 1: Voluntary Odd/Even (or equally restrictive or equivalent) Watering Restrictions after 5 PM or before 9 AM

Level 2: Mandatory Odd/Even (or equally restrictive or equivalent) Watering Restrictions after 5 PM or before 9 AM

Level 3: 1 day per week watering (or equally restrictive or equivalent), after 5 PM or before 9 AM

Level 4: Ban on all non-essential outdoor water use

Nowhere in the revised Drought Plan did we see language which would curtail releases from surface water systems upon initial declaration of drought. MWWA would reiterate the concern we raised repeatedly throughout the Sustainable Water Management Initiative (SWMI) process that surface water releases to support downstream flow and fisheries is wholly inappropriate. Water supply reservoirs are designed to be managed and controlled for both water quality and quantity interests, with a noted purpose of ensuring water is available in times of need. Every drop of water released downstream is one less drop

available to support water supply, should it be needed during drought. MWWA would ask that the Drought Plan specifically require curtailment of any releases upon initial indication of drought conditions at the Level 1-Mild Drought stage. Any permits issued by the State with required releases should be modified to reflect that these releases will not be required if a system is concerned about the adequacy of their supply and/or upon initial drought declaration.

**Other considerations not captured in the Draft Drought Plan:**

There are some other things that the state could be doing to ensure water system resiliency during times of drought. MWWA points to comments that we have made previously and that are very relevant to this discussion. First, since the time that EEA convened the Sustainable Water Management Initiative (SWMI) in 2009-10, MWWA has been trying to get the State to consider fostering the development of new water sources as a way to provide redundancy opportunities and to increase the resiliency of our water supply systems. The summer of 2016, more than any other, shows that we need to revisit this issue. During the SWMI process, we asked that areas for potential new sources be identified and we pressed for regulatory changes that would encourage the development of new sources that would provide for operational flexibility, while not penalizing water systems by imposing new regulatory requirements. Unfortunately, much of what we proposed was objected to by the watershed advocates for fear that development of new sources would cause an increase in water pumped. Our water systems need the flexibility to operate their systems optimally; new sources would give water systems more options and may actually be more beneficial to the environment.

We remain concerned that conditions and requirements resulting from the amended Water Management Act regulations, 310 CMR 36.00, stand to threaten the resiliency of our water systems rather than strengthen them. We are concerned that there was absolutely no discussion during the 2016 drought about development of new or supplemental sources; all of the discussion was about further conservation and reductions in non-essential use. We remain concerned that the almost exclusive focus on water system demand management strategies is appeasing certain special interest groups at the expense, and to the detriment of, larger public water supply interests. As EEA and the Task Force look at updates to the plan, the primary goal and objective should be to look at changes that will allow our water systems to reliably supply water during the worst drought conditions. We encourage EEA and MassDEP to embark on an immediate review of the Water Management Act regulations and revisit them with the lens of ensuring adequate water supply for public health and safety needs. EEA should evaluate what incentives might exist to encourage new water supply and streamline regulatory barriers to rapid development of new sources that will enable water system resiliency.

Watershed advocates have been pressing the state to impose restrictions on private well users. MWWA wants to make it clear that Public Water Systems and the MassDEP do not have jurisdiction over private well owners; nor do they have the resources to take them on. If the State decides to impose restrictions upon all water users, they will need to be clear



that the enforcement authority for private well owners resides with the State or with the local Board of Health and not with the Public Water System.

During public comment at the Water Resources Commission meeting on February 14<sup>th</sup>, watershed advocates stated that there needs to be more representation by the environmental community on the Task Force. MWWA would like to point out that there is, and always has been, a representative from the environmental community on the Task Force, the Water Supply Citizens Advisory Committee (WSCAC). Rather than expand the membership of the Task Force, the watershed groups should do a better job coordinating their comments to the WSCAC representative.

It should be noted that drought response activities performed by water systems are incredibly time intensive, from monitoring source water and demand management conditions to implementing associated restrictions and ensuing compliance and enforcement activities. The City of Worcester commented that during 2016-17, they had two staff people devoted to this effort. They are one of the largest water systems in the state and have staff that were redirected from their normal duties to deal with the drought; many water systems do not have that luxury. Certainly it is very important that both the Commonwealth and Public Water Systems be prepared to respond to drought conditions and we appreciate the effort that went into making these updates based on the experiences and lessons learned from 2016. We hope that EEA strongly considers our recommendations for changes to the language in the draft Drought Plan to ensure that science and fact drive future drought declarations.

We appreciate the opportunity to comment on the draft Drought Plan and look forward to working with the Task Force and EEA to ensure the continued protection of our public water supplies.

Sincerely,

A handwritten signature in black ink, reading "Jennifer A. Pederson". The signature is fluid and cursive, with the first name being the most prominent.

Jennifer A. Pederson  
Executive Director



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March 15, 2019

Vandana M. Rao, Ph.D.

Asst. Director for Water Policy

Executive Office of Energy and Environmental Affairs

100 Cambridge Street, Suite 900

Boston, MA 02114

**RE: Comments on Appendix D Massachusetts Drought Management Plan**

Via Electronic Mail to [Vandana.rao@mass.gov](mailto:Vandana.rao@mass.gov)

Dear Dr. Rao:

Massachusetts Water Works Association (MWWA) is a non-profit membership organization of water supply professionals. With over 1,200 members throughout the Commonwealth, our organization's mission is to provide education and advocacy to water systems and to promote a safe and sufficient supply of water for the Commonwealth's residents and businesses. We wish to supplement the comments that we made on the draft Massachusetts Drought Plan now that Appendix D has been released. Appendix D provides additional technical information that is relevant to the selection of the indices in the new plan and is important to understanding the overall plan. We want to offer the following comments on the information presented in Appendix D.

There are many areas of the Appendix that include statements such as, "further research needs to be completed," "monitoring stations are being evaluated," "effects of climate change will continue to be evaluated;" MWWA believes that firm deadlines should be established for these evaluations and that updates should be provided to the Drought Management Task Force on the ongoing work and findings. Deadlines should apply to such things as: expanding the network of Lakes and Impoundments, reviewing the streamflow and groundwater monitoring networks and evaluating alternatives to the Crop Moisture Index (CMI). Without firm deadlines, we are concerned that the work will languish, as we know that there are many competing priorities for staff time.

As we indicated in the comments we previously submitted, we believe that given the stated limitations of the Crop Moisture Index for Massachusetts, that index should be eliminated until a more suitable replacement can be identified. The Executive Office of Energy and Environmental Affairs (EEA) should study the opportunity to install evaporation stations at some of the weather stations in Massachusetts to improve the data set for the CMI and KBDI.

One of MWWA's Technical Committee members raised a question regarding the rationale for the threshold breakdowns establishing various drought stages. We understand that EEA was trying to follow the US Drought Monitor's approach, but why not more closely follow the percentage breakdowns for how the United States Geological Survey categorizes normal and below normal conditions? USGS uses 5 percentile ranges:

- <10 Much below normal
- 10-24 Below normal
- 25-75 Normal
- 76-90 Above normal
- >90 Much above normal

In the Drought Plan, the threshold levels start at >20 and ≤30 as a mild drought. Why not use ≤ 24 as below normal, like the USGS? Why is EEA including 24 to 30 in this below normal when USGS calls 25 percentile normal?

MWWA is concerned that look back periods could be adding too much information into a decision. EEA analyzed a 36-month look back and determined that "time periods beyond 24-month time frame do not provide additional drought signals at the Drought Regional Scale" yet EEA is keeping it (based on research by Boutt) until further research is completed. MWWA suggests EEA should leave it out until further research is complete. We are further concerned that too much subjectivity could be introduced when allowing the Task Force to select the most relevant look-back period to drive the Precipitation Index.

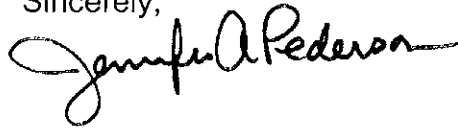
In Exhibit 6, it would be helpful to list the Period of Record (the actual years) in the column headers where referenced.

It needs to be recognized that the methodology for determining drought in the State Drought Plan is generic and may be useful as a screening tool, but it should not be used as a driver for response actions at the local level. MWWA has advocated that System-Specific Resiliency/Drought Plans are more appropriate than use of the state-wide plan. Our review of Appendix D only reinforces our thoughts on this matter. The metrics in the Drought Plan are regional and indicate the potential for drought conditions to develop or persist, but they do not necessarily indicate the severity of impact on specific water supply systems, nor the local vulnerability. Declarations of drought at a regional levels can cause expensive response actions that may not be appropriate given local

supply conditions. When looking at regional indices, it is important to be aware that there is a potential weakness in using regional conditions indicators to suggest the severity of impact on any specific water supply system; it may trigger action too early or too late depending on the size of the water system and their local supply condition. For these reasons, we again ask EEA to include language in the Drought Plan that makes it clear that public water systems default to the State Drought Plan only if they do not have their own System-Specific Resiliency/Drought plan.

We appreciate the opportunity to comment on Appendix D and look forward to further discussion with the Task Force and EEA on the issues we have raised.

Sincerely,

A handwritten signature in black ink, reading "Jennifer A. Pederson". The signature is fluid and cursive, with the first name "Jennifer" being more prominent and the last name "Pederson" following in a similar style.

Jennifer A. Pederson  
Executive Director





February 25, 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

We appreciate the substantial efforts that the staff and members of the Drought Management Task Force have undertaken to update the Massachusetts Drought Management Plan. We feel confident that many of the proposed changes will improve the state's timeliness and overall response to future droughts. We also recognize that there are a few areas where some of the current proposals could be strengthened in the draft Plan.

On behalf of the 130,000 members and supporters of the Massachusetts Sierra Club, we appreciate the opportunity to share the following comments.

Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future* (page 7). This section provides detailed descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response in the state.

Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition* (page 10), that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not currently include any representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. The watershed community is well positioned to fill this role as it is well connected and individuals from this community have local expertise that they can share with the rest of the Task Force to ground statewide assessments.
  - (2) a hydrologist from one the major Massachusetts universities or colleges. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.
- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies* (page 12), under "MassDEP," the following change:

- “Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies”

### Section 3: Drought Assessment and Determination

- **Propose** that in *Section 3.1 Drought Levels (page 13)*, that “Level 1-Mild Drought” is changed to “**Moderate** Drought.” “Moderate” conveys a stronger sense of severity than “mild.” While we acknowledge that the U.S. Drought Monitor uses similar nomenclature for one of their drought levels, we feel strongly that the use of the term “mild” may lead some to think that the current drought conditions should not be taken seriously.
- **Propose** that in *Section 3.4.3 Streamflow (page 20)* “Figure 4: Massachusetts Stream Gage Network for Drought Monitoring,” that Drought Management Task Force staff reviews the current composition of the network gages. It appears that there are no gages in the Cape Cod and Islands Regions. If there are no options for gages in these areas, additional information should be provided in this section regarding how the Task Force will make assessments without any reporting data on this metric from these two regions.
- **Propose** that in *Section 3.4.5 Lakes and Impoundments (page 23)* “Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring,” the inclusion of additional data points for the network. The current listing includes primarily water supplies, with only a handful of lakes or impoundments. In addition, the number of data points is extremely limited in many of the regions. For example, both the Connecticut River Region and the Southeast Region have only two data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is truly reflective of conditions in the region.

### Section 4: Process of Determining Drought Status

- **Propose** in *Section 4.3 End of Drought (page 29)*, the following change:
  - “Determinations regarding the end of a drought focus on the precipitation and groundwater indices. **These metrics will be prioritized when evaluating declarations for the end of a drought.**”

### Section 5: Drought Communication

- **Support** the inclusion of *Section 5: Drought Communication (page 29)*. This additional information clarifies the communication responsibilities of all relevant state agencies and establishes a strong framework for engaging regularly with the public about water conditions.
- **Propose** in *Section 5.1 Communication Platforms (page 30)*, the addition:
  - “The following direct forms of communication will also be utilized, as appropriate... **Outreach to regional planning agencies**”

### Section 6: Summary of Responsibilities by State Agency

- **Propose** in *Section 6.4 Department of Environmental Protection (MassDEP) (page 45)*, the following change:
  - “MassDEP’s Water Management Act Program tracks the implementation of water use restrictions by **registered and permitted communities** across the state and regularly prepares maps showing the status of restrictions.”

### Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*. This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask

that additional information is provided in this section regarding the timeline for implementation of the new tasks assigned to each respective agency and what entity will be responsible for overseeing the progress of each task.

- **Propose** in “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*, the following additions:
  - Under “Data Gathering, Analysis and Reporting” in the “MassDEP” category, **“Gather data on which municipalities have passed bylaws confirming their authority to require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells.”**
  - Under “Policy and Regulatory Action” in the “DMTF” category, **“Review the Massachusetts Drought Management Plan: Preparedness and Response every five years in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan and update as needed.”**
  - Under “Water Conservation” in the “All agencies” category, **“Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.”**
- **Support** the inclusion of “Table 10: State Drought Guidance” in *Section 7.2 State Agency Drought Response Actions (page 40)*. This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.
- **Propose** in “Table 11a: State Agency Drought Response Actions During a Level 1 Mild Drought” in *Section 7.2 State Agency Response Actions (page 42)* the following change:
  - **“Apply the Massachusetts drought management nonessential outdoor water-use restrictions to all state entities and encourage other water users to do the same.”**

#### Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions (page 48)* “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 52)* “Action 2: Develop a Local Drought Management Plan” that additional information is provided under subsection 4 “Establish Triggering Levels” to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” that a reference is made that financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program.

#### Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change:

- “Municipalities **may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions.”

Section 11: Plan Update and Maintenance

- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - “This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address **a drought**.”

Appendices:

- **Support** the inclusion of *Appendix F: Private Wells-Frequently Asked Questions (page 67)*. This section provides greater clarity regarding the impact of private wells on aquifers and encourages conservation of all water resources during a drought, a crucial message to convey in communities that are currently not implementing outdoor watering restriction bylaws that include private wells.
- **Propose** in *Appendix F: Private Wells-Frequently Asked Questions (page 67)* the following change:
  - “During periods of drought, especially when conditions are severe (**Level 1 – Mild Drought and higher**)...”
- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.

Thank you for your time and consideration.

Sincerely,



Deb Pasternak  
Director  
Massachusetts Sierra Club





THE BAY CENTER  
100 Save The Bay Drive  
Providence, RI 02905  
phone: 401-272-3540  
fax: 401-273-7153  
[savebay@savebay.org](mailto:savebay@savebay.org)  
[www.savebay.org](http://www.savebay.org)

EXPLORATION CENTER  
Easton's Beach  
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Newport, RI 02840  
phone: 401-324-6020  
fax: 401-324-6022

SOUTH COAST  
CENTER  
Riverside Building  
8 Broad Street  
Westerly, RI 02891  
phone/fax: 401.315.02891

February 25, 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

On behalf of Save The Bay, Narragansett Bay we appreciate the opportunity to share the following comments. We appreciate the substantial efforts that the staff and members of the Drought Management Task Force have undertaken to update the Massachusetts Drought Management Plan. Most of Narragansett Bay's watershed, approximately 60%, falls within Massachusetts, and water conservation in the headwaters of the Taunton, Blackstone, and Ten Mile Rivers ensure the health and resiliency of the whole watershed. We feel confident that many of the proposed changes will improve the state's overall response to future droughts. We also recognize that there are a few areas where some of the current proposals could be strengthened in the draft Plan.

#### Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future (page 7)*. This section provides descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response.

#### Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not currently include any representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. The watershed community is well positioned to fill this role as it is well connected and individuals from this community have local expertise that they can share with the rest of the Task Force to ground statewide assessments.
  - (2) An additional hydrological expert with connections to resources outside of USGS that would provide a informative perspective to add to the Task Force.

- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under “MassDEP,” the following change:
  - “Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies”

### Section 3: Drought Assessment and Determination

- **Propose** that in *Section 3.1 Drought Levels (page 13)*, that “Level 1-Mild Drought” is changed to “**Moderate** Drought.” “Moderate” conveys a stronger sense of severity than “mild.” Use of the term “mild” may lead some to think that the current drought conditions should not be taken seriously.
- **Propose** that in *Section 3.4.5 Lakes and Impoundments (page 23)* “Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring,” the inclusion of additional data points for the network. The current listing includes a small number of lakes or impoundments. In addition, the number of data points is extremely limited, specifically in the Southeast Region, which covers much of Narragansett Bay’s watershed, and has only two data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is reflective of conditions in the region.

### Section 4: Process of Determining Drought Status

- **Propose** in *Section 4.3 End of Drought (page 29)*, the following change:
  - “Determinations regarding the end of a drought focus on the precipitation and groundwater indices. **These metrics will be prioritized when evaluating declarations for the end of a drought.**”

### Section 5: Drought Communication

- **Support** the inclusion of *Section 5: Drought Communication (page 29)*. This additional information clarifies the communication responsibilities of all relevant state agencies and establishes a strong framework for engaging regularly with the public about water conditions.
- **Propose** in *Section 5.1 Communication Platforms (page 30)*, the addition:
  - “The following direct forms of communication will also be utilized, as appropriate... **Outreach to regional planning agencies**”

### Section 6: Summary of Responsibilities by State Agency

- **Propose** in *Section 6.4 Department of Environmental Protection (MassDEP) (page 34)*, the following change:
  - “MassDEP’s Water Management Act Program tracks the implementation of water use restrictions by **registered and permitted communities** across the state and regularly prepares maps showing the status of restrictions.”

### Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*. This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask that additional information is provided in this section regarding the timeline for implementation of the new tasks assigned to each respective agency and what entity will be responsible for overseeing the progress of each task.
- **Propose** in “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (pages 37-38)*, the following additions:

- Under “Data Gathering, Analysis and Reporting” in the “MassDEP” category, **“Gather data on which municipalities have passed bylaws confirming their authority to require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells.”**
- Under “Policy and Regulatory Action” in the “DMTF” category, **“Review the *Massachusetts Drought Management Plan: Preparedness and Response* every five years in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan and update as needed.”**
- Under “Water Conservation” in the “All agencies” category, **“Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.”**
- **Support** the inclusion of “Table 10: State Drought Guidance” in *Section 7.2 State Agency Drought Response Actions (page 40)*. This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.
- **Propose** in “Table 11a: State Agency Drought Response Actions During a Level 1 Mild Drought” in *Section 7.2 State Agency Response Actions (page 42)* the following change:
  - **“Apply** the Massachusetts drought management nonessential outdoor water-use restrictions **to all state entities and encourage other water users to do the same.”**

#### Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions (page 47)* “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 49)* “Action 2: Develop a Local Drought Management Plan” that additional information is provided under subsection 4 “Establish Triggering Levels” to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (pages 47-51)* “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” that a reference is made that financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program.

#### Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 55)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 55)*, the following change:
  - **“Municipalities may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions.”

#### Section 11: Plan Update and Maintenance

- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - **“This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address a drought.”**

Appendices:

- **Support** the inclusion of *Appendix F: Private Wells-Frequently Asked Questions (page 66)*. This section provides greater clarity regarding the impact of private wells on aquifers and encourages conservation of all water resources during a drought, a crucial message to convey in communities that are currently not implementing outdoor watering restriction bylaws that include private wells.
- **Propose** in *Appendix F: Private Wells-Frequently Asked Questions (page 66)* the following change:
  - “During periods of drought, especially when conditions are severe (**Level 1 – Mild Drought and higher**)...”
- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.

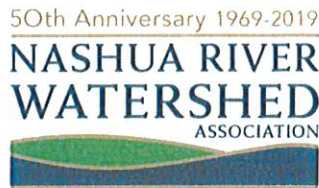
Thank you for your time and consideration.

Sincerely,



Kate McPherson  
Narragansett Bay Riverkeeper  
[kmcpherson@savebay.org](mailto:kmcpherson@savebay.org)  
401.272.3540 x 107





*Protecting our water, our land, our communities*

February 25, 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

RE: NRWA's Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

As the Nashua River Watershed Association (NRWA) celebrates its 50<sup>th</sup> anniversary this year, we continue to be a leader in the protection of water quality & quantity for people, fish, and wildlife in the 25 watershed communities in north-central Massachusetts.

NRWA witnessed first-hand the damaging effects of the 2016 "flash drought" on rivers and streams in our watershed. We have taken a keen interest in the work of the staff and members of the Drought Management Task Force and appreciate this January's update to the Massachusetts Drought Management Plan. We believe that many of the proposed changes will improve the state's timeliness and overall response to future droughts.

We have reviewed comments prepared by the Massachusetts River Alliance, and we are in agreement with them. On behalf of Nashua River Watershed Association, we thank you for the opportunity to share the following comments.

#### Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future* (page 7). This section provides detailed descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response in the state.

#### Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition* (page 10), that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not currently include any representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources

- to monitor and report on all regions in the state. The watershed community is well positioned to fill this role as it is well connected and individuals from this community have local expertise that they can share with the rest of the Task Force to ground statewide assessments.
- (2) a hydrologist from one the major Massachusetts universities or colleges. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.
- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under "MassDEP," the following change:
  - "Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies"

### Section 3: Drought Assessment and Determination

- **Propose** that in *Section 3.1 Drought Levels (page 13)*, that "Level 1-Mild Drought" is changed to "**Moderate** Drought." "Moderate" conveys a stronger sense of severity than "mild." While we acknowledge that the U.S. Drought Monitor uses similar nomenclature for one of their drought levels, we feel strongly that the use of the term "mild" may lead some to think that the current drought conditions should not be taken seriously.
- **Propose** that in *Section 3.4.3 Streamflow (page 20)* "Figure 4: Massachusetts Stream Gage Network for Drought Monitoring," that Drought Management Task Force staff reviews the current composition of the network gages. It appears that there are no gages in the Cape Cod and Islands Regions. If there are no options for gages in these areas, additional information should be provided in this section regarding how the Task Force will make assessments without any reporting data on this metric from these two regions.
- **Propose** that in *Section 3.4.5 Lakes and Impoundments (page 23)* "Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring," the inclusion of additional data points for the network. The current listing includes primarily water supplies, with only a handful of lakes or impoundments. In addition, the number of data points is extremely limited in many of the regions. For example, both the Connecticut River Region and the Southeast Region have only two data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is truly reflective of conditions in the region.

### Section 4: Process of Determining Drought Status

- **Propose** in *Section 4.3 End of Drought (page 29)*, the following change:
  - "Determinations regarding the end of a drought focus on the precipitation and groundwater indices. **These metrics will be prioritized when evaluating declarations for the end of a drought.**"

### Section 5: Drought Communication

- **Support** the inclusion of *Section 5: Drought Communication (page 29)*. This additional information clarifies the communication responsibilities of all relevant state agencies and establishes a strong framework for engaging regularly with the public about water conditions.
- **Propose** in *Section 5.1 Communication Platforms (page 30)*, the addition:
  - "The following direct forms of communication will also be utilized, as appropriate...  
**Outreach to regional planning agencies"**

#### Section 6: Summary of Responsibilities by State Agency

- **Propose** in *Section 6.4 Department of Environmental Protection (MassDEP) (page 45)*, the following change:
  - "MassDEP's Water Management Act Program tracks the implementation of water use restrictions by **registered and permitted communities** across the state and regularly prepares maps showing the status of restrictions."

#### Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of "Table 9: State Preparedness Actions" in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*. This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask that additional information is provided in this section regarding the timeline for implementation of the new tasks assigned to each respective agency and what entity will be responsible for overseeing the progress of each task.
- **Propose** in "Table 9: State Preparedness Actions" in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*, the following additions:
  - Under "Data Gathering, Analysis and Reporting" in the "MassDEP" category, "**Gather data on which municipalities have passed bylaws confirming their authority to require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells.**"
  - Under "Policy and Regulatory Action" in the "DMTF" category, "**Review the Massachusetts Drought Management Plan: Preparedness and Response every five years in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan and update as needed.**"
  - Under "Water Conservation" in the "All agencies" category, "**Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.**"
- **Support** the inclusion of "Table 10: State Drought Guidance" in *Section 7.2 State Agency Drought Response Actions (page 40)*. This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.
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  - "**Apply** the Massachusetts drought management nonessential outdoor water-use restrictions **to all state entities and encourage other water users to do the same.**"

#### Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions (page 48)* "Action 1: Develop a Water Conservation Program." The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 52)* "Action 2: Develop a Local Drought Management Plan" that additional information is provided under subsection 4 "Establish Triggering Levels" to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.

- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* "Action 1: Develop a Water Conservation Program" and "Action 2: Develop a Local Drought Management Plan" that a reference is made that financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program.

Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change:
  - "Municipalities **may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions."

Section 11: Plan Update and Maintenance

- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - "This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address **a drought**."

Appendices:

- **Support** the inclusion of *Appendix F: Private Wells-Frequently Asked Questions (page 67)*. This section provides greater clarity regarding the impact of private wells on aquifers and encourages conservation of all water resources during a drought, a crucial message to convey in communities that are currently not implementing outdoor watering restriction bylaws that include private wells.
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- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.

Thank you for your time and consideration.

Sincerely,

  
Elizabeth Ainsley Campbell  
Executive Director

  
Martha S. Morgan  
Water Programs Director



February 25, 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

**Officers & Board**

Robert McGregor,  
President, Sharon

David Biggers,  
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Stoughton

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Taber Keally,  
Milton

Paul Lauenstein,  
Sharon

Martha  
McDonough,  
Readville

Brendan  
McLaughlin,  
Milton

Maura O'Gara,  
Quincy

Richard O'Mara,  
Dorchester

Les Tyralla,  
Quincy

Laura Vaites,  
Walpole

William Wiseman,  
Walpole

**Re: Proposed Updates to the Massachusetts Drought Management Plan**

Dear Ms. Rao,

Let me first thank you, the staff and the members of the Drought Management Task Force for the extraordinary efforts you have undertaken to update the Massachusetts Drought Management Plan. We are confident that many of the proposed changes will improve the state's timeliness and overall response to future droughts. We also recognize that there are a few areas where some of the current proposals could be strengthened in the draft Plan.

Please accept the following comments on behalf of the Neponset River Watershed Association:

**Section 1: Introduction**

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future (page 7)*. This section provides detailed descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. The inclusion of this information is essential as it points to the acute importance of drought preparedness and response in the state.

**Section 2: Authority and Coordination**

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not include any representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. The watershed community is well positioned to fill this role as it is well connected and individuals from this community have local expertise that they can share with the rest of the Task Force to ground statewide assessments.

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correspond with drought declarations from EEA regarding the status of respective drought regions.

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Thank you for your time and consideration.

Sincerely,



Kerry Snyder  
Advocacy Director



February 25 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

We appreciate the substantial efforts that the staff and members of the Drought Management Task Force have undertaken to update the Massachusetts Drought Management Plan. We feel confident that many of the proposed changes will improve the state's timeliness and overall response to future droughts. We also recognize that there are a few areas where some of the current proposals could be strengthened in the draft Plan.

On behalf of the North and South Rivers Watershed Association we appreciate the opportunity to share the following comments.

Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future (page 7)*. This section provides detailed descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response in the state.

Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not currently include any representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. The watershed community is well positioned to fill this role as it is well connected and individuals from this community have local expertise that they can share with the rest of the Task Force to ground statewide assessments.
  - (2) a hydrologist from one the major Massachusetts universities or colleges. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.
- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under "MassDEP," the following change:
  - "Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies"

### Section 3: Drought Assessment and Determination

- **Propose** that in *Section 3.1 Drought Levels (page 13)*, that “Level 1-Mild Drought” is changed to “**Moderate** Drought.” “Moderate” conveys a stronger sense of severity than “mild.” While we acknowledge that the U.S. Drought Monitor uses similar nomenclature for one of their drought levels, we feel strongly that the use of the term “mild” may lead some to think that the current drought conditions should not be taken seriously.
- **Propose** that in *Section 3.4.3 Streamflow (page 20)* “Figure 4: Massachusetts Stream Gage Network for Drought Monitoring,” that Drought Management Task Force staff reviews the current composition of the network gages. It appears that there are no gages in the Cape Cod and Islands Regions. If there are no options for gages in these areas, additional information should be provided in this section regarding how the Task Force will make assessments without any reporting data on this metric from these two regions.
- **Propose** that in *Section 3.4.5 Lakes and Impoundments (page 23)* “Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring,” the inclusion of additional data points for the network. The current listing includes primarily water supplies, with only a handful of lakes or impoundments. In addition, the number of data points is extremely limited in many of the regions. For example, both the Connecticut River Region and the Southeast Region have only two data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is truly reflective of conditions in the region.

### Section 4: Process of Determining Drought Status

- **Propose** in *Section 4.3 End of Drought (page 29)*, the following change:
  - “Determinations regarding the end of a drought focus on the precipitation and groundwater indices. **These metrics will be prioritized when evaluating declarations for the end of a drought.**”

### Section 5: Drought Communication

- **Support** the inclusion of *Section 5: Drought Communication (page 29)*. This additional information clarifies the communication responsibilities of all relevant state agencies and establishes a strong framework for engaging regularly with the public about water conditions.
- **Propose** in *Section 5.1 Communication Platforms (page 30)*, the addition:
  - “The following direct forms of communication will also be utilized, as appropriate... **Outreach to regional planning agencies**”

### Section 6: Summary of Responsibilities by State Agency

- **Propose** in *Section 6.4 Department of Environmental Protection (MassDEP) (page 45)*, the following change:
  - “MassDEP’s Water Management Act Program tracks the implementation of water use restrictions by **registered and permitted communities** across the state and regularly prepares maps showing the status of restrictions.”

### Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*. This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask that additional information is provided in this section regarding the timeline for implementation of the new tasks assigned to each respective agency and what entity will be responsible for overseeing the progress of each task.
- **Propose** in “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*, the following additions:
  - Under “Data Gathering, Analysis and Reporting” in the “MassDEP” category, **“Gather data on which municipalities have passed bylaws confirming their authority to require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells.”**
  - Under “Policy and Regulatory Action” in the “DMTF” category, **“Review the Massachusetts Drought Management Plan: Preparedness and Response every five years in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan and update as needed.”**
  - Under “Water Conservation” in the “All agencies” category, **“Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.”**
- **Support** the inclusion of “Table 10: State Drought Guidance” in *Section 7.2 State Agency Drought Response Actions (page 40)*. This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.
- **Propose** in “Table 11a: State Agency Drought Response Actions During a Level 1 Mild Drought” in *Section 7.2 State Agency Response Actions (page 42)* the following change:
  - **“Apply the Massachusetts drought management nonessential outdoor water-use restrictions to all state entities and encourage other water users to do the same.”**

## Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions (page 48)* “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 52)* “Action 2: Develop a Local Drought Management Plan” that additional information is provided under subsection 4 “Establish Triggering Levels” to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” that a reference is made that financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program.

#### Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change:
  - “Municipalities **may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions.”

#### Section 11: Plan Update and Maintenance

- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - “This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address a **drought**.”

#### Appendices:

- **Support** the inclusion of *Appendix F: Private Wells-Frequently Asked Questions (page 67)*. This section provides greater clarity regarding the impact of private wells on aquifers and encourages conservation of all water resources during a drought, a crucial message to convey in communities that are currently not implementing outdoor watering restriction bylaws that include private wells.
- **Propose** in *Appendix F: Private Wells-Frequently Asked Questions (page 67)* the following change:
  - “During periods of drought, especially when conditions are severe (**Level 1 – Mild Drought and higher**)...”
- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.

Thank you for your time and consideration.

Sincerely,

Samantha Woods  
Executive Director  
NSRWA





FOR THE ASSABET SUDBURY & CONCORD RIVERS

23 Bradford Street · Concord, MA 01742

978 · 369 · 3956

[office@oars3rivers.org](mailto:office@oars3rivers.org)

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February 22, 2019

Vandana M. Rao  
Director of Water Policy  
Executive Office of Energy and Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114

Re: Comments on Draft 2018 Massachusetts Drought Management Plan

Dear Dr. Rao,

Thank you for this opportunity to comment on the proposed updates to the Massachusetts Drought Management Plan. We appreciate your thoughtful and consultative process and the substantial efforts of staff and members of the Drought Management Task Force to update the plan. The proposed changes will improve the state's timely response and communications in the event of future droughts. We also see a few areas where some of the current language could be strengthened.

OARS is the watershed organization for the 400-square mile Sudbury-Assabet-Concord watershed, comprising 36 cities and towns in the MetroWest/495 region. These communities represent the full range of water supply types—MWRA, municipal surface and/or groundwater, and private wells. There is also a mix of economic uses of water—domestic, industrial, commercial, agricultural, and recreational. The water balance is severely disrupted in this region and we have been able to observe the significant impacts of floods and droughts on surface waters, particularly the watershed's coldwater streams and three major rivers.

Our specific comments and suggestions are as follows:

Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future* (page 7). This section succinctly describes the new climate norms that climate scientists anticipate for our region with a focus on the increasing frequency of droughts. It is important that this context is included as it highlights the changing conditions and urgent need for drought preparedness and a nimble response.

Section 2: Authority and Coordination

- **Propose** in *Section 2.2.1 Composition* (page 10), that the composition of the Drought Management Task Force is modified to include: **A representative from the non-profit watershed community**. The Task Force does not currently include any representatives who can speak with authority on the conditions of particular streams and rivers. Although the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. Watershed organizations are well positioned to fill this role due to their detailed knowledge of local conditions on-the-ground that they can share with the rest of the Task Force.

- **Propose** in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under MassDEP, the following change: “Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies”

### Section 3: Drought Assessment and Determination

- **Propose** in *Section 3.1 Drought Levels (page 13)*, that “Level 1-Mild Drought” is changed to “**Moderate** Drought.” “Moderate” conveys a stronger sense of severity than “mild.” The U.S. Drought Monitor uses the term “moderate” for one of their early drought levels. We feel strongly that the term “mild” may lead some to think that the current drought conditions should not be taken seriously—when in fact this may be the crucial period to respond in order to lessen the impacts of a possibly deepening drought.
- **Support** in *Section 3.2 Drought Regions (page 14)*, the option to do drought analyses or make declarations on an individual county or watershed basis. This make sense given that drought conditions may be quite localized and not conform to political boundaries.
- **Propose** in *Section 3.4.3 Streamflow (page 20) and Section 3.4.4 Groundwater (page 21)* that Drought Management Task Force staff periodically review the composition and adequacy of the network gages. For both streamflow and groundwater levels, it is essential that the data sources be adequate for the analysis. Where there are inadequate data or number or type of monitoring stations, recommendations to address this deficit should be forwarded to the relevant agencies. We suggest that this may already be the case for the number of groundwater monitoring stations.
- **Propose** in *Section 3.4.5 Lakes and Impoundments (page 23)* that “Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring,” include additional data points for the network. The current listing primarily includes water supplies, with only a handful of lakes or impoundments. The number of data points is very limited in many of the regions. Our watershed has only one impoundment listed (Hudson). It may be possible to add recreational lakes with DCR properties, such as Lake Cochituate, or others. Additional lakes and ponds should be considered for the network to ensure that this metric truly reflects conditions in each region.

### Section 5: Drought Communication

- **Support** the inclusion of *Section 5: Drought Communication (page 29)*. This additional information clarifies the communication responsibilities of all relevant state agencies and establishes a strong framework for engaging regularly with the public about water conditions.
- **Propose** in *Section 5.1 Communication Platforms (page 30)*, the addition: “The following direct forms of communication will also be utilized, as appropriate... **Outreach to regional planning agencies**”

### Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*. This table clarifies the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask that the timeline for implementation of the new tasks assigned to each respective agency be added, and what entity will be responsible for overseeing the progress of each task.
- **Propose** in “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*, the following additions:
  - Under “Data Gathering, Analysis and Reporting” in the “MassDEP” category, “**Gather data on which municipalities have passed bylaws confirming their authority to**

**require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells.”**

- Under “Communication and Public Outreach” a “DAR” category, **“Communicate to farmers, irrigators, hydroseeding companies, and other agricultural water users, guidance to limit or minimize water withdrawals from streams and other surface waters that may be suffering abnormally low flows due to drought.”** This should also be added, as appropriate, to the tables in Section 7.2 for DAR response actions. At the same time that agricultural users have increased water needs due to drought, their conventional sources may have restrictions or be inadequate and the next alternative is often local streams. Withdrawals from these streams can cause severe damage to aquatic life by eliminating or severely degrading the remaining refugia resulting in fish kills and loss of other aquatic and riverine wildlife, which can take years to recover.
- Under “Policy and Regulatory Action” in the “DMTF” category, **“Review the *Massachusetts Drought Management Plan: Preparedness and Response* every five years in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan and update as needed.”**
- Under “Water Conservation” in the “All agencies” category, **“Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.”**
- **Support** the inclusion of “Table 10: State Drought Guidance” in *Section 7.2 State Agency Drought Response Actions (page 41)*. This guidance includes the appropriate restrictions for each drought level that will ensure water is conserved effectively in times of water scarcity. It will also provide support to communities that seek to implement stronger watering restrictions than defined in their permit that seek additional justification.
- **Propose** in “Table 11a: State Agency Drought Response Actions During a Level 1 Mild Drought” in *Section 7.2 State Agency Response Actions (page 41)* the following change in the Water Conservation section: **“Apply the Massachusetts drought management nonessential outdoor water-use restrictions to all state entities and encourage other water users to do the same.”**

#### Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions (page 47)* “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities. We **strongly support** Action 1 (2) “Implement an Outdoor Water Use Program” and propose the following change: “Authority: The first step in an outdoor water use program should be to establish legal authority to limit nonessential outdoor water use **from whatever source, whether public or private.**”
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 52)* “Action 2: Develop a Local Drought Management Plan” that additional information is provided under subsection 4 “Establish Triggering Levels” to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* that “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” refer to financial support available through the state Municipal Vulnerability Preparedness program or future similar programs.

#### Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

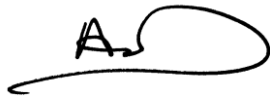
- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change: “Municipalities **may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions.”

#### Appendices:

- **Support** the inclusion of *Appendix F: Private Wells-Frequently Asked Questions (page 67)*. This section provides needed clarity regarding the impact of private wells on aquifers and encourages conservation of all water resources during a drought. This is a crucial message to convey in communities that do not yet have outdoor watering restriction bylaws that include private wells. The limitation of water use restrictions to public water supplies tends to exacerbate inequalities among water users and undermines water conservation messaging.
- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.” Illicit withdrawals” should be clearly defined so that farmers, contractors, and others know the legal status of their routine or anticipated withdrawals.

We look forward to the final promulgation of this updated Drought Management Plan. Please don't hesitate to contact me if you have any questions.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'A. Juma', with a long, sweeping horizontal line extending to the left.

Alison Field-Juma  
Executive Director





February 25, 2018

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

We appreciate the substantial efforts that the staff and members of the Drought Management Task Force have undertaken to update the Massachusetts Drought Management Plan. We feel confident that many of the proposed changes will improve the state's timeliness and overall response to future droughts. We also recognize that there are a few areas where some of the current proposals could be strengthened in the draft Plan.

On behalf of the Ocean River Institute we appreciate the opportunity to share the following comments.

#### Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future (page 7)*. This section provides detailed descriptions of the new climatic norms climate scientists anticipate that we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response in the state.

#### Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not currently include any representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. The watershed community is well positioned to fill this role as it is well connected and individuals from this community have local expertise that they can share with the rest of the Task Force to ground statewide assessments.

- (2) a hydrologist from one of the major Massachusetts universities or colleges. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.
- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under “MassDEP,” the following change:
  - “Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies”

### Section 3: Drought Assessment and Determination

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### Section 4: Process of Determining Drought Status

- **Propose** in *Section 4.3 End of Drought (page 29)*, the following change:
  - “Determinations regarding the end of a drought focus on the precipitation and groundwater indices. **These metrics will be prioritized when evaluating declarations for the end of a drought.**”

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- **Propose** in *Section 6.4 Department of Environmental Protection (MassDEP) (page 45)*, the following change:
  - “MassDEP’s Water Management Act Program tracks the implementation of water use restrictions by **registered and permitted communities** across the state and regularly prepares maps showing the status of restrictions.”

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  - Under “Water Conservation” in the “All agencies” category, **“Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.”**
- **Support** the inclusion of “Table 10: State Drought Guidance” in *Section 7.2 State Agency Drought Response Actions (page 40)*. This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.
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- **Support** *Section 8.1 Community Drought Preparedness Actions (page 48)* “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.

- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 52)* “Action 2: Develop a Local Drought Management Plan” that additional information is provided under subsection 4 “Establish Triggering Levels” to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” that a reference is made that financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program.

#### Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change:
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#### Section 11: Plan Update and Maintenance

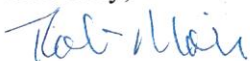
- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - “This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address a **drought.**”

#### Appendices:

- **Support** the inclusion of *Appendix F: Private Wells-Frequently Asked Questions (page 67)*. This section provides greater clarity regarding the impact of private wells on aquifers and encourages conservation of all water resources during a drought, a crucial message to convey in communities that are currently not implementing outdoor watering restriction bylaws that include private wells.
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- **Propose** that an additional appendix is created to provide guidance for communities regarding their authority to prohibit illicit withdrawals from streams and rivers during a drought. This is a commonly reported issue and only a few communities have addressed this concern through the passage of local bylaws.

Thank you for your time and consideration.

Sincerely,



Rob Moir, Ph.D., Executive Director



Vincent J. Ragucci, III  
167 North St.  
North Reading, MA 01864  
February 20, 2019

Vandana Rao  
Executive Director  
Water Resources Commission  
Executive Office of Energy  
& Environmental Affairs  
100 Cambridge Street, Suite 900  
Boston, MA 02114

Dear Executive Director Rao:

The following comments are presented in my capacity as both Chairman of the North Reading Water Commission and as a Public Member Commissioner of the Water Resources Commission. First, I wish to complement your efforts, the workgroup's efforts and the tremendous work of the Water Resources Commission staff for their outstanding efforts in updating the Massachusetts Drought Management Plan.

At the public hearing held at our last meeting, my comments on most of the document were covered by others, so I will not offer specific comment. I would, however, like to offer an idea to bolster **Section 5: Drought Communication**. As I read through this section, I thought that there was an important group that we could engage as true partners – not only when we were approaching drought conditions, but as year round spokespeople. That group are the Massachusetts radio and television personality meteorologists who connect with listeners and viewers 3 or more times a day for 365 days a year. My idea is to engage these meteorologist personalities to some basic training and brand a program (maybe something with a name like **"Every Drop Matters"**), where they would offer the current drought condition level and drought outlook and maybe offer a weekly "water saving tip"? WRC staff could develop and release materials, maybe even develop a program logo and official program acceptance by radio and television stations to commit to the program.

As we all know, after the Executive Director's Report at each WRC meeting, we review the Hydrologic Conditions and Drought Update with Viki Zoltay. When conditions change and we head into potentially worrisome or dangerous water shortage periods, materials could be developed and released for that particular condition. Specific materials could be developed for morning, mid-day and evening programs. As well, many of the television meteorologists are super active on social media and with livestreaming of weather updates and conditions. This is another place to insert our

Executive Director Rao  
February 20, 2019  
Page 2

expert staff with providing specially developed charts, quick tips and explaining what specific conditions mean could help the Commonwealth of Massachusetts year round and help stations to fulfill their public service obligation. They, as professional communicators could get our word out year round with an increased level of interest as conditions deteriorate and then get better. It's just an idea, but I think that they offer a huge potential with the widely known radio and television personalities telling the story rather than us trying to tell the story and hope that residents see something locally.

I would be glad as a Commission liaison to volunteer to develop such a program.

Thank you and staff again for the tireless efforts to assist the Commonwealth in saving our most precious resource – water.

Sincerely,

*Vincent J. Ragucci, III*  
Vincent J. Ragucci, III



February 25, 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

On behalf of the River Stewardship Council of the Sudbury, Assabet and Concord Wild and Scenic River, and the National Park Service, thank you for the opportunity to comment on the draft Massachusetts Drought Management Plan.

The Greater Boston area has a unique and unparalleled resource in the Sudbury, Assabet and Concord Wild and Scenic River. Wild and Scenic Rivers comprise less than 1% of all rivers nationally. Approved by Town vote, 8 towns came together with State and Federal agencies to designate 29 miles of the Sudbury, Assabet and Concord as Wild and Scenic in 1999. This designation recognized the outstanding river resources, including the ecology and scenery, recreational resources, and their place in American history and literature. Protecting water flow and water quality are major components of our comprehensive River Management Plan.

The National Park Service is responsible for the long term protection of the Wild and Scenic River and administering the Wild and Scenic Rivers Act. NPS works closely with the River Stewardship Council (RSC), which is comprised of representatives from each of the shoreline communities, as well as two nonprofit organizations, and state and federal agencies.

We appreciate all that the Drought Management Task Force has done to improve the Management Plan and to enable the State to be better prepared in the future for drought conditions. We think overall that the Plan is vastly improved, but recommend the following changes:

Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not currently include any representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of

Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. The watershed community is well positioned to fill this role as it is well connected and individuals from this community have local expertise that they can share with the rest of the Task Force to ground statewide assessments.

- (2) a hydrologist from one the major Massachusetts universities or colleges. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.
- **Propose** that in *Table 1. Responsibilities of State and Federal Agencies (page 12)*, under “MassDEP,” the following change:
  - “Provide list of **all** communities with mandatory **and voluntary watering restrictions** and declared water emergencies”

### Section 3: Drought Assessment and Determination

- **Propose** that in *Section 3.1 Drought Levels (page 13)*, that “Level 1-Mild Drought” is changed to “**Moderate** Drought.” “Moderate” conveys a stronger sense of severity than “mild.” While we acknowledge that the U.S. Drought Monitor uses similar nomenclature for one of their drought levels, we feel strongly that the use of the term “mild” may lead some to think that the current drought conditions should not be taken seriously.
- **Propose** that in *Section 3.4.3 Streamflow (page 20)* “Figure 4: Massachusetts Stream Gage Network for Drought Monitoring,” that Drought Management Task Force staff reviews the current composition of the network gages. It appears that there are no gages in the Cape Cod and Islands Regions. If there are no options for gages in these areas, additional information should be provided in this section regarding how the Task Force will make assessments without any reporting data on this metric from these two regions.
- **Propose** that in *Section 3.4.5 Lakes and Impoundments (page 23)* “Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring,” the inclusion of additional data points for the network. The current listing includes primarily water supplies, with only a handful of lakes or impoundments. In addition, the number of data points is extremely limited in many of the regions. For example, both the Connecticut River Region and the Southeast Region have only two data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is truly reflective of conditions in the region.

### Section 4: Process of Determining Drought Status

- **Propose** in *Section 4.3 End of Drought (page 29)*, the following change:
  - “Determinations regarding the end of a drought focus on the precipitation and groundwater indices. **These metrics will be prioritized when evaluating declarations for the end of a drought.**”





#### Section 6: Summary of Responsibilities by State Agency

- **Propose** in *Section 6.4 Department of Environmental Protection (MassDEP)* (page 45), the following change:
  - “MassDEP’s Water Management Act Program tracks the implementation of water use restrictions by **registered and permitted communities** across the state and regularly prepares maps showing the status of restrictions.”

#### Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions* (page 38). This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask that additional information is provided in this section regarding the timeline for implementation of the new tasks assigned to each respective agency and what entity will be responsible for overseeing the progress of each task.
- **Propose** in “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions* (page 38), the following additions:
  - Under “Data Gathering, Analysis and Reporting” in the “MassDEP” category, “**Gather data on which municipalities have passed bylaws confirming their authority to require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells.**”
  - Under “Policy and Regulatory Action” in the “DMTF” category, “Review the *Massachusetts Drought Management Plan: Preparedness and Response* every five years **in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan** and update as needed.”
  - Under “Water Conservation” in the “All agencies” category, “**Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized.**”
- **Support** the inclusion of “Table 10: State Drought Guidance” in *Section 7.2 State Agency Drought Response Actions* (page 40). This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.

#### Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions* (page 48) “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.

- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 52)* “Action 2: Develop a Local Drought Management Plan” that additional information is provided under subsection 4 “Establish Triggering Levels” to clarify how local trigger levels will correspond with drought declarations from EEA regarding the status of respective drought regions.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” that a reference is made that financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program.

Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change:
  - “Municipalities **may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions.”

Section 11: Plan Update and Maintenance

- **Propose** in *Section 10.2.1 Governor-Declared State of Emergency (page 57)* the following change:
  - “This broad authority should provide the Governor the power to take necessary steps, such as restraining the use of water on private property to address **a drought.**”

On behalf of the River Stewardship Council,

Anne Slugg, Council Chair

Sudbury, Massachusetts



February 25, 2018

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Dr. Rao,

We appreciate the substantial efforts that the staff and members of the Drought Management Task Force have undertaken to update the Massachusetts Drought Management Plan. We feel confident that many of the proposed changes will improve the state's timeliness and overall response to future droughts.

We also appreciate the Office of Energy and Environmental Affairs' overall efforts to address climate adaptation, resiliency, and mitigation across the Commonwealth. The Drought Management Plan provides an opportunity to strengthen our response to climate risks, and our comments largely center around how the Plan dovetails with existing climate change efforts, such as the State Hazard Mitigation and Climate Adaptation Plan, and how to ensure these efforts are integrated.

On behalf of The Nature Conservancy, we appreciate the opportunity to share the following comments.

#### Section 1: Introduction

- **Support** the inclusion of *Section 1.3.1. Massachusetts' Climate – Past, Present and Future (page 7)*. This section provides detailed descriptions of the new climatic norms climate scientists anticipate we will see our region with a particular emphasis on the likely increasing occurrence of droughts. We appreciate the inclusion of this information as it points to the acute importance of drought preparedness and response in the state.

#### Section 2: Authority and Coordination

- **Propose** that in *Section 2.2.1 Composition (page 10)*, that the composition of the Drought Management Task Force is modified to include:
  - (1) a representative from the watershed non-profit community. The current make-up of the task force does not currently include representatives who can speak with authority on the conditions of particular streams and rivers. Though the Division of Ecological Restoration and Division of Fisheries and Wildlife may share updates about some river conditions, they often lack the time and resources to monitor and report on all regions in the state. The watershed community is well positioned to fill this role as it is well connected and individuals from this community have local expertise valuable to the Task Force to inform statewide assessments.
  - (2) a hydrologist from a major Massachusetts university or college. An additional hydrological expert with connections to resources outside of USGS would provide a potentially informative perspective to add to the Task Force.

## Section 7: Drought Preparedness and Response Actions of State Agencies

- **Support** the inclusion of “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*. This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. We ask that additional information is provided in this section regarding the timeline for implementation of the new tasks assigned to each respective agency and which entity will be responsible for overseeing the progress against tasks.
- **Propose** in “Table 9: State Preparedness Actions” in *Section 7.1 State Agency Drought Preparedness Actions (page 38)*, the following addition:
  - Under “Policy and Regulatory Action” in the “DMTF” category, “Review the *Massachusetts Drought Management Plan: Preparedness and Response* every five years **in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan** and update as needed.”

## Section 8: Drought Preparedness and Response Actions – Guidance for Communities

- **Support** *Section 8.1 Community Drought Preparedness Actions (page 48)* “Action 1: Develop a Water Conservation Program.” The additional focus on long-term planning and year-long water conservation efforts conveys the importance of continuous messaging and preparedness for municipalities.
- **Propose** in *Section 8.1 Community Drought Preparedness Actions (page 54)* “Action 1: Develop a Water Conservation Program” and “Action 2: Develop a Local Drought Management Plan” that a reference is made that **financial support for these actions can be achieved through the state Municipal Vulnerability Preparedness program**.

## Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- **Support** the inclusion of *Section 10.1 Local Government (page 56)*. Additional information and clarity regarding the authority of municipalities to implement nonessential outdoor watering restrictions will aid communities in justifying their respective bylaws and motivate communities without these bylaws to implement them.
- **Propose** in *Section 10.1 Local Government (page 56)*, the following change:
  - “Municipalities **may regulate** through such bylaws or ordinances the use of water from **public or private water systems**, including voluntary or mandatory water-use restrictions.”

Thank you for your time and consideration.

Sincerely,



Emily Myron  
Government Relations Specialist  
emily.myron@tnc.org





**WATER SUPPLY CITIZENS  
ADVISORY COMMITTEE**  
to the Mass. Water Resources Authority

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Belchertown MA 01007  
(413) 213-0454  
fax: (413) 213-0537  
email: [info@wscac.org](mailto:info@wscac.org)

February 25, 2019

Vandana Rao, Water Policy Director  
Office of Energy and Environmental Affairs  
100 Cambridge Street  
Boston, MA 02114

Re: Written Comments on Proposed Updates to the Massachusetts Drought Management Plan

Dear Ms. Rao,

On behalf of the Water Supply Citizens Advisory Committee (WSCAC) and as a member of the Drought Management Task Force, we appreciate the opportunity to provide comments on the potential revisions to the Massachusetts Drought Management Plan.

Staff has done a substantial job in preparing the proposed updates to the draft Plan which we hope will lead to a more unified, effective and timely response to future droughts. We appreciate the following updated elements in the plan:

- Enhancing monitoring and early drought warning capabilities with state-led preparedness and response actions.
- Providing guidance to communities on drought preparedness and response actions at the local level.

We offer the following comments:

Section 1: Introduction

- We support agency coordination, preparedness, state-led response and actions supporting communities. Outside of the MWRA service area, drought awareness and preparedness in communities is limited. Public water suppliers with Water Management Permits receive information from MassDEP, but public outreach at the community level for drought preparedness is lacking. The utilization, by state agencies, of the existing networks created by the Regional Planning Agencies will help ensure that drought communication can be managed at the local level.
- We appreciate the inclusion of 1.3.1 Massachusetts Climate and hope that this information will be updated over time to include evolving climate change reports prepared at the state level and shared at the local level.

Section 2: Authority and Coordination

- We strongly support strengthening the Drought Management Task Force by including additional experts rather than forming a Drought Management Mission Group. It appears from the description that this new group would be a redundant effort. It could weaken transparency and information sharing between groups rather than enhance it. It would be staffed by designees from the same

agencies, led by the same director and be tasked with the same work already addressed by the Task Force.

- We are fortunate to have numerous experts (from UMass, Tufts, MIT and other individuals) who are able to add significant value as members of the Task Force. Likewise, we have watershed organizations with critical information to share from the basin level that will strengthen the recommendations provided by the Task Force. We recommend adding two seats to the Task Force for these and possibly other groups that are well positioned to contribute and reinforce the recommendations offered by members of the Task Force.
- In Table I. Responsibilities of State and Federal Agencies, we recommend further clarification on the responsibilities and requirements of the Department of Public Health and the Department of Public Utilities regarding drought preparedness and response actions. During the 2016 drought, there was a lack of information available to towns with private wells and outreach on potential public health issues. Coordination and communication at the Department level and with local Boards of Health is a vital link that can be strengthened.
- Under MassDEP, we support the following change:  
“Provide a list of *all* communities with mandatory *and voluntary watering restrictions* and declared water emergencies.”

### Section 3: Drought Assessment and Determination

- We propose, in Section 3.1 Drought Levels, that “Level 1-Mild Drought” be changed to “Moderate Drought.” “Moderate” conveys a stronger sense of severity than “mild.”
- We propose, in Section 3.4.3 Streamflow “Figure 4: Massachusetts Stream Gage Network for Drought Monitoring,” that Drought Management Task Force staff reviews the current composition of the network gages. If there are no options for gages in the Cape Cod and Islands Regions, additional information should be provided in this section regarding how the Task Force will make assessments without any reporting data on this metric from these two regions.
- We propose, in Section 3.4.5 Lakes and Impoundments “Figure 6: Massachusetts Lake and Impoundment Monitoring Network for Drought Monitoring,” the inclusion of additional data points for the network. The current listing includes primarily water supplies, with only a handful of lakes or impoundments. In addition, the number of data points is extremely limited in many of the regions. For example, both the Connecticut River Region and the Southeast Region have only two data points. Additional lakes and ponds should be considered for inclusion in the network to ensure that reporting on this metric is truly reflective of conditions in the region.

### Section 5: Drought Communication

- Clear, consistent, and timely communication to all communities must be at the core of the proposed revisions to the Plan. We appreciate and support the addition of direct forms of communication as well as email. Many small towns with volunteer boards require more than web page access to receive accurate and timely information.
- We recommend that all communities receive the monthly hydrologic report generated by DCR’s Office of Water Resources. MassDEP communicates with Public Water Suppliers, but a designated official from each community is needed to distribute the information to the town administrator, the fire chief, the public health officer and the local media. Emailing this information would cost little and can raise awareness at an early stage of a potentially serious drought. At a minimum, such an early warning system should be implemented in areas where municipal or private well pumping is impacting local groundwater resources.
- All towns should be required to develop a comprehensive drought management plan. A locally-specific plan is vital to providing the structure a town needs to implement an efficient and effective

drought response. All residential, commercial and industrial water users must be informed with targeted and consistent messaging that explains the community's approach and rationale. The importance of the communication between state-led actions and the local response cannot be overstated.

- Redundant means of communication help ensure that the necessary information is received. We recommend the inclusion of Regional Planning Agencies as critical links between state agency actions and community response. Existing communication networks between towns and the planning agencies will provide a more reliable outreach effort.

#### Section 6: Summary of Responsibilities by State Agency

- We propose in Section 6.4 Department of Environmental Protection (MassDEP) the following change that "MassDEP's Water Management Act Program tracks the implementation of water use restrictions by *registered and permitted communities* across the state and regularly prepares maps showing the status of restrictions." This is important information to be shared at Drought Task Force meetings.

#### Section 7: Drought Preparedness and Response Actions of State Agencies

- We support the inclusion of "Table 9: State Preparedness Actions" in Section 7.1 State Agency Drought Preparedness Actions. This table provides greater clarity regarding the responsibilities of relevant agencies in ensuring improved responses to future droughts. It would be helpful to include a timeline for the implementation of the new tasks assigned to each respective agency and what entity will be responsible for overseeing each task. Informing Drought Task Force members and others on the progress made and the opportunity to review draft reports would be useful for discussion at Task Force meetings.
- We support, in "Table 9: State Preparedness Actions" in *Section 7.1 State Agency Drought Preparedness Actions*, the following additions:
  - Under "Data Gathering, Analysis and Reporting" in the "MassDEP" category, "Gather data on which municipalities have passed bylaws confirming their authority to require nonessential outdoor watering restrictions, and those that have incorporated local bylaws requiring these restrictions for private wells."
  - Under "Policy and Regulatory Action" in the "DMTF" category, "Review the *Massachusetts Drought Management Plan: Preparedness and Response* every five years in conjunction with updates to the State Hazard Mitigation and Climate Adaptation Plan and update as needed."
  - Under "Water Conservation" in the "All agencies" category, "Coordinate with farmers and growers in the agricultural community to ensure water savings programs are well-publicized and incentivized." We support the proposal by the Green Industry Alliance of Massachusetts that recommends that all newly installed irrigation systems be registered and inspected at the local level.
- We support the inclusion of "Table 10: State Drought Guidance" in Section 7.2 State Agency Drought Response Actions. This guidance includes the appropriate corresponding restrictions for each drought level that will ensure water is conserved efficiently and effectively in times of water scarcity. It will also provide support to communities that seek to implement stronger watering restrictions than defined in their permit that want additional justifications for doing so.
- We support in "Table 11a: State Agency Drought Response Actions During a Level 1 Mild (change to Moderate) Drought" in Section 7.2 State Agency Response Actions the following change: "Apply the Massachusetts drought management nonessential outdoor water-use restrictions to *all state entities and encourage other water users to do the same.* "

- Under Financial Assistance, provide grants to Regional Planning Agencies to assist communities in preparing a Drought Management Plan.

#### Section 8: Drought Preparedness and Response Actions-Guidance for Communities

- We support the increased comprehensiveness in this chapter and the information regarding the AWWA Manual of Water Supply Practices M60. To ensure that this information is widely distributed, understood and utilized at the local level, we recommend regional workshops be offered to Public Water Suppliers and municipal officials to assist them in setting up this essential plan. The goal of completing the plan is made possible with support through the many steps of the process. The ability to pay Regional Planning staff to prepare the plan with municipal officials and local boards will ensure the goal is reached. The link is then established for communities to process information prepared at the state level.

#### Section 9:

- We support the After Action Review by the Drought Task Force to assess the effectiveness of state actions taken to address the drought. If improvements are recommended, we suggest that necessary amendments and improvements be implemented in a timely manner while the event is still front and center. The efficacy of the updated Drought Plan can be based on the ability to use the Plan's new organizational structure to guide the review of what was successful and where improvements are needed.

#### Section 10: Drought and Emergency Declarations: Legal Authorities and Powers

- In 10.1, we recommend that the proposed Plan point out the resources available from watershed organizations. They provide essential data and monitoring results for local streams, rivers and other water bodies. This wealth of information and opportunity for partnership at the local/regional level is a valuable tool for municipal officials and local boards who can use this information to determine when a drought is imminent as well as during recovery.

In closing, we thank DCR and EEA staff for providing these potential updates to the Drought Plan. While coordination and communication among agencies is essential at the state level, we reiterate that to reach the goal of sufficient and timely drought response throughout the state requires public understanding and buy-in. Supporting and utilizing partnerships with local and regional groups in the form of workshops and grants will be a vital component in achieving success.

Thank you for the opportunity to comment.

Sincerely,

Lexi Dewey  
Executive Director  
Water Supply Citizens Advisory Committee



**From:** Ken Weismantel [<mailto:kweisma@msn.com>]

**Sent:** Friday, February 08, 2019 9:06 PM

**To:** Rao, Vandana (EEA)

**Subject:** WRC Drought Management Plan Draft

I received the DMP draft in the mail. Here are my comments ...Overall very good and ready to release. I did not focus my attention on the details of how the the different drought levels are determined as you all are experts on this.

Executive Summary: Besides a short summary of the purpose of the plan, I think you should direct attention of various agencies, water suppliers and communities to the sections that are most important to each.

Section 1.3.1: The last paragraph conclusion is not supported by the data and the previous paragraphs. It is hard to predict the future weather so why try and lose credibility. A sentence with "may" is so wishy-washy so why include the paragraph. We really care about severe droughts and their frequency ... not a few months of less rain due to normal variability. The data in Appendix I and Section 1.3.3 shows that the period between severe droughts is actually increasing. This paragraph gives an opposite conclusion to Runkle where "annual precipitation" has been increasing. In Hopkinton, we recently changed the models for storm water calculations because the data has shown that 10 year, 25 year, 100 year storms were coming more frequent and storm water structures needed to handle more water. I would just delete the last paragraph of this section as it is not needed.

Section 1.3.3: Appendix J should be I.

Section 11: The plan should be reviewed after the next major drought when the plan is actually used. The procedures used to calculate levels should be changed as needed. Of it could be revised if someone has better ideas or if laws and regulations change.

I think the Plan is ready to publish. Good job.

Kenneth Weismantel  
Public Member

Sent from my Verizon, Samsung Galaxy smartphone