Response to Comment - Water Management Act (WMA) (M.G.L. c. 21G) revisions to regulations at 310 CMR 36.00
January 20, 2023

Pursuant to M.G.L. c. 30A, the MA Department of Environmental Protection (MassDEP) has amended the Water Resources Management Program Regulations (310 CMR 36.00) to authorize the department to add a condition to Water Management Registrations that will restrict nonessential outdoor water use by registrants during times of drought declared by the Secretary of Energy and Environmental Affairs. This condition will not restrict the following uses including, but not limited to, uses required:

- for health or safety (e.g.: fire-fighting and municipal pipe flushing to prevent contaminants in water supply pipes, public facilities used by the public for cooling);
- by permit, license, statute or regulation;
- for the production of food and fiber, including privately-owned home vegetable gardens;
- for maintenance of livestock;
- to meet the core functions (those functions essential to the commercial operations) of a business;
- to irrigate recreational fields, and public parks before 9:00 a.m. and after 5:00 p.m.;
- to irrigate publicly funded shade trees and trees in the public right-of-way; or
- to establish a new lawn to stabilize soil after to new construction or repair/replacement of a Title 5 system.

The restrictions on nonessential outdoor use better align water use during drought conditions with the Massachusetts Drought Management Plan, as updated in 2019. The restrictions will help ensure that water supplies remain full, operational, and resilient during drought and that essential water uses will be prioritized to protect health, safety and sustainable economic growth. These restrictions on nonessential use may result in a temporary decrease in registrants' water withdrawals when drought conditions are declared, but will not prevent registrants from withdrawing their full annual registered withdrawal over the course of the year.

It is also likely any seasonal reduction in withdrawals associated with these restrictions on nonessential outdoor water use will minimize impacts to the natural environment and water resources during drought conditions. These regulations will help to ensure an adequate volume of water for the municipalities, businesses, and residents of Massachusetts, both present and future, and may also better protect the natural environment of water in the Commonwealth.

The amendments also adjust basin expiration dates for permitting to account for the tolling of permit expiration dates by the Governor's Covid-19 Order No. 42.

MassDEP held two virtual hearings on the proposed amendment regarding nonessential outdoor water use on July 7 and 16, 2021, to receive oral testimony, and held a public comment period from June 11 to July 26, 2021. In 2022, MassDEP published a revised version of the proposed amendments, which included the basin date adjustment, for public comment. MassDEP again held two virtual hearings on the proposed amendments on October 27 and 28, 2022, to receive oral testimony, and held a public comment period from October 5 to November 18, 2022.

MassDEP received 364 comments in 2021, of which 1 was from a state legislator, 17 were from public water suppliers, 20 from environmental, trade, waterworks and green industry organizations, 10 from residents outside the Ipswich River Basin, 32 from individual residents in the Ipswich River Basin and 284 were identical emails from residents in the Ipswich River Basin. MassDEP received 524 comments in 2022, of which 6 were comments from state legislators, 19 were from public water suppliers, 31 from environmental, trade, waterworks and green industry organizations, 61 from individuals and 407 from email campaigns organized by environmental advocates.

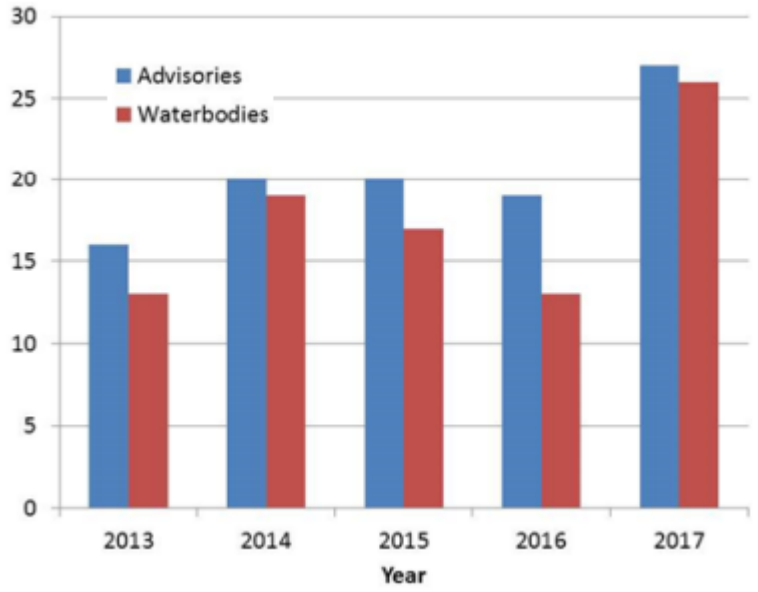
This response to comments is not intended to address every issue raised. The response below is to comments received from multiple reviewers on the general effect of the proposed amendments. MassDEP is not responding to comments on issues that are specific to individual permits or permittees. Thank you to all who provided input on these regulations.

WMA Draft Regulations Comment	**Response**
1. Impact to registered withdrawals In *Water Dep't of Fairhaven v. Dep't of Env't Prot.,* 455 Mass. 740, 751 (2010), the SJC ruled that MassDEP "may, by regulation, impose conservation measures on registrants, provided that those measures do not infringe the registrants' entitlement" to registered withdrawals.	
Comments were received saying that the proposed regulations both would, and would not, infringe on registrants' entitlement to registered withdrawals. Those in support commented that the proposed regulations would not deny registrants their entitlement given that the registrant could still withdraw their full entitled quantity of water over the course of the year. Those opposed to the proposed regulations commented that the proposed regulations would infringe upon registrants' entitlement to their registered withdrawals by limiting their ability to sell that water during a drought.	The amended regulations do not infringe on registrants' entitlement to their full registered amount, which is an annual average daily volume. These regulations do not limit the volume of water that can be withdrawn but instead prioritize how water can be used during a drought by requiring a conservation measure that restricts nonessential outdoor water uses (primarily lawn-watering) during a declared drought. Registrants are still entitled to withdraw their full registered volume. As the Massachusetts Supreme Judicial Court (SJC), recognized in *Water Dep't of Fairhaven v. Dep't of Env't Prot.,* 455 Mass. 740, 751 (2010), the Water Management Act, G.L. c. 21G, § 3, provides the Department with broad authority to impose conservation measures on registered users. The SJC held in the *Fairhaven* decision that imposition of conservation measures on Water Management Act Registrations is permissible provided that such restrictions do not infringe on registrants' entitlement to registered withdrawals and are adopted through duly promulgated regulations.
2. Water use by registrants has fallen	
Water use data does not support the need to condition registrations. In 35 years, registered-only users have not seen their water use increase above registered volumes and, in many instances, there have been decreases.	The indices in the 2019 Massachusetts Drought Management Plan (https://www.mass.gov/doc/massachusetts-drought-management-plan/download) were carefully considered and publicly reviewed as part of updating the Plan and are designed to represent and protect many interests, including public water supply systems, agriculture, and natural resources. The purpose of the amendment is to prioritize essential uses of water during drought conditions and to minimize the

Tying watering restrictions to the Massachusetts Drought Management Plan and regional drought declarations is not appropriate. The Drought Plan is based on many indices that are not water supply related.	impacts of drought on the various water uses protected under the Water Management Act, following the Massachusetts Drought Management Plan. These regulations are timely as Massachusetts has had significant droughts in 2016, 2020 and 2022, and there are documented inter-relationships among drought conditions and impacts to public and private water supplies, streamflow, aquatic habitat, water quality, public health, public safety, agriculture and the economy. Climate change adds an element of uncertainty that will make response to drought conditions increasingly important. The Executive Office of Energy and Environmental Affairs' Massachusetts Drought Retrospective 2016-2017 (https://www.mass.gov/doc/massachusetts-drought-retrospective-2016-2017/download) provides a summary of drought conditions, impacts, and responses during the 2016-2017 drought. The following is a summary of the severe and extensive impacts experienced as a result of the 2016-2017 drought. Many of these impacts (*e.g.*, low groundwater levels and low levels of surface waters bodies serving as public water supplies) are directly related to the amount of water available to water withdrawers during the drought, while other drought impacts (*e.g.*, fire danger and economic impacts on agriculture) are indicators of the impacts of drought conditions and the importance of prioritizing water uses during a drought. A similar retrospective is being prepared for the 2020-2021 drought. Groundwater: Groundwater levels were very poor in September 2016 when 14 individual monitoring wells were at period-of-record lows. There were 13 monitoring wells at record lows in October 2016. Groundwater impacts, in terms of drought level, were most severe in November 2016 when three regions reached Emergency and eight groundwater monitoring wells were at their period-of-record low values. There were six monitoring wells at record lows in December 2016, four in January 2017, three in February 2017, and two in March 2017. Many public water supplies are dependent upon groundwater, and, therefore, severe effects of drought upon groundwater levels can be compounded by significant drawdown by public water supplies during drought months. Public Water Supplies: In Massachusetts, any Public Water System (PWS) having difficulty meeting demands, drought related or not, may request a Declaration of Water Supply Emergency ("Emergency Declaration") from MassDEP. During the 2016-2017 drought, five systems requested an emergency declaration: Ashland, Burlington, Foxborough, Ipswich, and Plymouth. Water supply emergencies were

	also declared in 2016 by the Cherry Valley Water District (Leicester) and Natick. The causes for these emergencies varied, with several involving mechanical or operational difficulties, while others had regulatory drivers, but the drought certainly contributed to their difficulties meeting demands. Surface Waters: Drought can severely lower the level of surface water bodies, including surface water supply reservoirs and other sources. Several PWSs experienced very low reservoir water levels during the drought in 2016 but did not request an Emergency Declaration. Except for Hudson and Rockport, all reservoirs were at least one standard deviation below normal at some point between October 2015 to September 2017. Some reservoir levels fell more than two standard deviations below normal including those serving Cambridge, Lynn, Taunton, and Worcester. The worst months for individual reservoirs were September 2016 through December 2016 with 14 of the 19 reservoirs reporting below normal levels in November 2016. This low level of surface water supplies is a threat to the capacity and safety of the public water supply. In 2016, Cambridge switched its water source to the MA Water Resources Authority because of drought-exacerbated shortages. On October 11, 2016, Cambridge, which relies solely on surface waters for its water supply, started sourcing 90% of its demand for water supply from MWRA. The Cambridge water supply has less than one year of supply at maximum capacity, making the system susceptible to multi-year droughts. The lowest measured reservoir level was approximately 18% of full capacity on October 9, 2016. The Scituate Water Division experienced extremely low reservoir levels in summer 2016. Despite escalating non-essential outdoor water use restrictions and extensive public education and outreach, water levels fell from 100% of reservoir capacity on May 1, to 50% on July 8, to 28% on August 5, and to its lowest level of 21.4% capacity on September 26. Worcester's water supply had a deficit of 20.25 inches of rainfall between the winter of 2015 and the spring of 2017. Conditions were severe enough that the city supplemented supplies by purchasing water from MWRA from September through December 2016, totaling approximately 824 million gallons and costing $2.9 million. The lowest level that Worcester's combined reservoir system reached was 47% full in November 2016. The city's approach to watering restrictions at each drought

	stage was to impose stricter restrictions on municipal water use than on that of customers and many outreach activities were undertaken. Private Wells: After four municipalities contacted MEMA to report that some private wells were running dry and to seek guidance in May 2017, the DCR Office of Water Resources created a survey to gather information on the effects of the drought on private wells. Responses were received from 87 municipalities (not including the four that had contacted MEMA). Representatives from forty-five municipalities (52%) reported being aware of private wells impacted by the drought, totaling an estimated 220 incidents. Ten towns reported one incident each while the Town of Tolland reported the highest number of impacts, with an estimated 20 incidents. The most commonly reported impact was low or no water, followed by the need to improve or replace a well, then by poor water quality. In total, 55 respondents (63%) felt that impacts on private wells were underreported. Of these 55 respondents, 30 had reported private well impacts and 25 reported no impacts. Water Quality and Public Health Impacts: The MA Department of Public Health provides oversight or assistance to local boards of health regarding drought-related issues such as recreational water quality impacts and private drinking water supply capacity. While there are no regulatory requirements for monitoring of cyanobacteria, which can form harmful algae blooms (cyanoHABs), DPH provides technical assistance upon request and may recommend the issuance of advisories by local, state, and federal agencies at recreational waterbodies under their jurisdiction. The factors that contribute to cyanoHABs include increases in water temperature, sunlight, and nutrients - particularly nitrogen and phosphorus. Dry conditions generally favor the formation of cyanoHABs as they increase water temperatures and decrease nutrient outflow from the waterbody. However, since nutrients can accumulate on land and enter the waterbody from rainfall-related runoff, it is also possible that dry conditions followed by rainfall may increase the formation of cyanoHABs. This may partly explain the increase in advisories and impacted waterbodies from 19 advisories issued for 13 waterbodies in 2016 to 27 advisories issued for 26 waterbodies in 2017. The 2017 totals were above the average number of advisories and impacted waterbodies from 2013-2017. This table presents the number of cyanobacterial harmful algae bloom advisories and impacted waterbodies in Massachusetts from 2013 to 2017.



Agriculture and Economic Impacts: The Crop Moisture Index (CMI) is used by the Massachusetts Drought Management Plan and reflects short-term soil moisture conditions needed for agriculture and is applicable during the growing season. The worst crop moisture conditions occurred in August 2016. Conditions in the easternmost sections of the state and the Islands reached the Severely Dry category, which corresponds to a Warning drought level. The majority of the rest of the state was in the Excessively Dry category (Watch). Only the westernmost region never advanced past Abnormally Dry (Advisory) for the duration of the drought.

Less than normal precipitation, lower streamflows, and lowered groundwater elevations that limit the yields of farms' private wells affect agriculture during drought. Because farms often rely on the same aquifers and streams that also supply public water supplies, it is critical that public water suppliers discontinue non-essential use of water during droughts; this will help other uses such as farms to access available water for essential uses such as raising food crops. The 2016-2017 drought in Massachusetts had major impacts on the Commonwealth's agricultural producers. The Massachusetts Department of Agricultural Resources (MDAR) monitored the drought situation and worked with state and federal partners to provide as many resources as possible to help farmers mitigate the impacts of the drought. Impacts and losses were felt in every county across the

state and on all crops. Impacted farmers incurred increased costs for production and reduced revenues. Cranberry growers' costs increased from running irrigation pumps and they lost revenue due to lower yields and reduced quality of berries. They were also concerned with the availability of water over the winter for use in frost protection. Livestock farmers had to purchase feed much earlier than usual due to the loss of forage as a result of the drought, which resulted in huge cost increases. The table below presents the economic impact of the 2016 drought on Massachusetts by county.

County	% Farm Acres Affected	Estimated Crop Loss ($)
Barnstable	4.30%	15,730
Berkshire	1.30%	66,667
Bristol	18.10%	2,014,632
Dukes	0.80%	7,865
Essex	5.20%	1,031,142
Franklin	11.20%	3,332,120
Hampden	6.30%	432,960
Hampshire	3.30%	2,984,992
Middlesex	1.60%	676,277
Nantucket	8.10%	4,850
Norfolk	18.70%	477,368
Plymouth	0.90%	43,100
Worcester	24.50%	7,085,057
Massachu-setts	10.30%	18,172,759

Public Safety Impacts: The Massachusetts Drought Management Plan relies on the Keetch-Byram Drought Index (KBDI) for a longer-term indication of drought conditions related to the severity of forest fire behavior (fuel moisture), that affect potential fire spread and the resources needed to extinguish fires. The KBDI is reported weekly from 13 Massachusetts fire districts by MA Department of Conservation and Recreation's (DCR) Bureau of Forest Fire Control from March 1

	through November 30. Effects of the drought on KBDI were seen during the summer of 2016, specifically in the months of June through October with the worst KBDI conditions occurring in August. Conditions in the Northeast, Southeast, and Cape (excluding the Islands) reached the Warning category, with KBDI values generally exceeding 600. The remaining three regions (Central, CT River Valley, and Western) were in the Watch category, with KBDI values generally between 400 and 600. According to the US Fish and Wildlife Service Wildland Fire Assessment System (http://www.wfas.net/index.php/keetch-byram-index-moisture--drought-49), KBDI between 400 and 600 is typical of late summer and early fall conditions, when lower litter and duff layers actively contribute to fire intensity and will burn actively. KBDI between 600 – 800 is often associated with more severe drought with increased wildfire occurrence, and intense, deep burning fires with significant downwind spotting can be expected and live fuels can burn actively. During periods of drought, it is critical that resources be used carefully to ensure there is adequate supply for fire suppression; thus, it is reasonable for public water suppliers to eliminate non-essential uses during drought conditions. Streamflow and Aquatic Habitat: Pumping of groundwater wells reduces baseflow in streams which can result in, or exacerbate, low flow conditions in streams. This can negatively affect the aquatic ecosystems that rely on sufficient streamflow and is protected under the Water Management Act. Therefore, it is important that public water suppliers eliminate non-essential water use during drought conditions. While 2016 was the 10th driest (in terms of precipitation) year on record with a rainfall deficit greater than 11 inches, in October two gages were at record lows. Streamflow impacts were most severe in November 2016, when two drought regions were at Emergency levels, and two streamflow gages, at Sevenmile River near Spencer and Green River near Colrain, were at their period-of-record low-flow values. The MA Division of Ecological Restoration (DER) monitors streamflow at 28 sites across Massachusetts. Gulf Brook, Pepperell, is a Coldwater Fisheries Resource in the Nashua River watershed. In 2016, portions of Gulf Brook downstream of a municipal water supply well were dry from at least mid-July to late October, at least 95 days, however streamflow was observed at the headwaters of the brook throughout the summer. Portions of Martins Brook in North Reading the largest tributary to the Ipswich River, were dry for 68 days from mid-July to early October. Montague Brook in Belchertown is a designated Coldwater Fisheries Resource in the Connecticut River watershed. In 2016, sections of the river in the vicinity and

	downstream of a water supply well were dry from mid-July to late November, for 128 days. By contrast, streamflow was documented throughout the summer and fall in the areas upstream of the well, with no days of zero flow recorded during the same time period. In Third Herring Brook in Norwell, which is tributary to the North River, a combination of drought conditions, groundwater pumping, and lack of flow over the dam spillway in the headwaters in 2016 resulted in the lack of flow as a result of which portions of the river were dry for 100 days from early July to mid-October. In addition, DER reported dry streambeds in the Weir River (Hingham), First Herring Brook (Scituate), Mattapoisett River (Mattapoisett), and Parker River (Georgetown). The Division of Fisheries and Wildlife (DFW) reported that the drought impacted DFW fish hatcheries in the Connecticut River Valley. Three of these hatcheries are groundwater-fed systems, and as the groundwater levels dropped so did the volume of water available to raise trout in the hatcheries. With a further reduction in volume anticipated with the continuing drought conditions, a subset of fish that would normally have been held in the hatchery through the winter and stocked in the spring as larger individuals, needed to be stocked out early to make room. As a result, fewer fish were raised overall than normal. Finally, both DFW and the Division of Marine Fisheries reported poor habitat conditions of dried streambeds and low flow for fisheries habitats. While more recent information related to drought impacts of the later droughts is still being compiled, in 2022 MassDEP's Watershed Planning Program documented stream segments of 18 streams that were dry after Drought Declarations by the Secretary of EOEEA. Dry stream segments impact aquatic organisms by reducing available habitat for various life stages.
3. Water use by private well owners below the Water Management Act threshold for regulation	
Both those in favor and those opposed to the proposed regulations noted that they do not address withdrawals of less than 100,000 gallons per day, and do not address nonessential outdoor water use by homeowners and others with private wells. Those in support of the proposed regulations argued that the need to effectively and comprehensively manage water resources is great and the Water	The Water Management Program regulates withdrawals over the 100,000 gallon per day (GPD) threshold established in the Water Management Act (M.G.L. c. 21G, § 4). The purpose of the amendment is to prioritize essential uses during drought conditions and to minimize the impact of drought conditions on water supplies and natural resources through restricting nonessential water uses of those withdrawals. MassDEP recognizes that there may be site-specific impacts on local water resources from sub-threshold withdrawals, including private wells. MassDEP has worked to address this through its Model Water Use Restriction Bylaw (updated

Management Program should examine extending the regulations to sub-threshold withdrawals and private wells. Those opposed argued that because the proposed regulations do not address withdrawals of less than 100,000 gallons per day, the proposed regulations are unfair and should not be promulgated.	May 2018) which includes provisions that local governments can adopt that require private well owners to adhere to the same restrictions as municipal customers. The model by-law can be found at https://www.mass.gov/service-details/model-water-use-restriction-bylawordinance-update. MassDEP offers mitigation credit in Water Management permitting to municipalities that adopt by-laws that restrict non-essential uses of water from private wells. The impact of sub-threshold withdrawals does not change the fact that registered and permitted withdrawals have substantial impact on the multitude of important interests protected by the Water Management Act during drought conditions.
4. Proposed regulations contradict the 2017 MassDEP position on conservation measures for registrants	
When several watershed groups filed a petition in 2017 asking MassDEP to include conservation conditions in registrations, MassDEP undertook a study in the Ipswich and Parker River Basins (October 2018 Study) which found little water savings would be gained in those river basins. "It has been and remains the Department's determination that imposing water conservation conditions on registrations would likely result in little actual water savings." MassDEP Response to the Mass Rivers Alliance Request for Adoption of Rules (Sept. 22, 2017)	The purpose of the amendments is to minimize the impacts of drought on both water supply systems and natural water resources by reducing nonessential water withdrawals during declared droughts, rather than to reduce overall water use on an annualized basis. The October 2018 Study was based on an analysis of water conservation measures on overall water use by registered water users in the Parker and Ipswich River Basins. The 2018 Study evaluated how registered users in both basins were doing on meeting the State Performance Standards of 65 residential gallons per capita day (RGPCD) and 10% unaccounted-for-water (UAW) standards, and how reducing seasonal increases would reduce water withdrawals in these basins. Meeting the Performance Standards often indicates good overall conservation practices and, based on that evaluation, it was determined that significant savings were not expected from broad conservation requirements for all registrants based on the results of those two basins. This was due in part to the fact that most of the users were already meeting the 65 RGPCD and 10% UAW standard and had a low summer vs. winter water use increase. The study did not evaluate specifically how water use in communities in these two river basins were responding to drought conditions. This study also was focused only on two rivers basins, and therefore the study does not reflect what impacts might occur in other basins with different existing conservation practices. Since that study, there have been two significant droughts in 2020 and 2022, in addition to the drought of 2016. A review of the Annual Statistical Reports supplied by several registered-only suppliers for the years 2016-2021, revealed significant spikes in water use during the years of 2016 and 2020. (Note 2022 water use data is

	not available at this time.) These spikes in water use were reflected in systems that met the Performance Standards and in those that did not. While summer water use normally is higher compared to winter water use, in drought years that increase is even more pronounced. One registered-only system in Western MA reported its highest summer (May-September) water use volumes in 2016 and 2020 for the six years evaluated (2016-2021). That same supplier reported 20% more water use in 2020 than it used in the wet summer of 2021. Also, a now registered-only system in Metro-West had similar differences in water use between 2020 and 2021, and in that system's case, its 2020 use was 12% more than its 2016 use when it held a Water Management permit and was required to implement restrictions on non-essential uses based on permit requirements. While the savings associated with prioritizing essential water uses during drought conditions will vary for each individual supplier, water use restrictions will help reduce similar higher drought-related water use, retaining water for important uses such as public health and safety, business and economic development, and emergencies such as water shortages and fires.

5. Consistent Conservation Requirements for Both Registrants and Permittees	
The regulations should do more to promote equity among suppliers and address climate and water resource needs by both extending the same drought restrictions to permittees and extending the full suite of conservation measures currently in permits to registrations as well.	The purpose of these amendments is to minimize the impacts of drought conditions. The regulations target efficient use of a scarce resource when drought conditions put stress on water supply systems and natural resources. Because registered users that increased their withdrawals by 100,000 gallons per day or more since the registration period (1981-1985) have been required to seek permits for the increased withdrawals, all existing registered-only water systems have not increased demand in the past 35 years. In response to the significant impacts of recent droughts, MassDEP has focused this effort on water conservation during drought conditions by restricting non-essential water use. It has not focused on imposing other types of water conservation measures on registered-only systems, such as standards for residential water use of 65 gallons per capita per day, that would be more broadly applicable in both drought and non-drought periods. MassDEP also has focused this rulemaking effort on registrations and not permits because it already has the authority to include drought-responsive conditions in permits. Additionally, the cycles for renewal of registrations, which are all renewed simultaneously for a period of ten years, and permits, which are renewed individually in watershed groups, differ. While these regulations address registrations only, drought responsive conditions can be and have been included in permits as they are

<table>
<tr><td></td><td>renewed. Approximately 90 public water suppliers with Water Management permits have calendar/streamflow triggered restrictions on nonessential outdoor water use. These restrictions go into effect every summer when streamflow falls to aquatic base flow values. Including restrictions on registrants' nonessential outdoor water use during times of declared drought will mean that there is more consistent messaging about the need to conserve water and protect water supply and natural resources when they are stressed by drought conditions. MassDEP will continue to reevaluate conservation measures, including nonessential outdoor water use restrictions, as permits come up for renewal. Just because MassDEP has not included drought-responsive conditions in all permits does not mean that it should not do so in registrations.</td></tr>
<tr><td colspan="2">6. Linkage to the Massachusetts Drought Management Plan and Climate Change</td></tr>
<tr><td>Opposition to a single state-wide drought declaration and conservation requirements because local conditions can vary widely.</td><td>The 2019 MA Drought Management Plan (Drought Plan), the Drought Declaration process, and the outdoor water use limitations proposed in the Drought Plan and these proposed regulations are responsive to local drought conditions.

The Drought Plan is a statewide document, but it clearly recognizes regional differences in drought conditions throughout Massachusetts, and differing levels of drought severity. The Plan includes seven Drought Regions shown below:

<table>
<tr><th>Drought Region</th><th>Counties</th></tr>
<tr><td>Western</td><td>Berkshire</td></tr>
<tr><td>Connecticut River Valley</td><td>Franklin, Hampshire, and Hampden</td></tr>
<tr><td>Central</td><td>Worcester</td></tr>
<tr><td>Northeast</td><td>Essex, Middlesex, & Suffolk (plus town of Brookline)</td></tr>
<tr><td>Southeast</td><td>Bristol, Plymouth, & Norfolk (minus town of Brookline)</td></tr>
<tr><td>Cape Cod</td><td>Barnstable</td></tr>
<tr><td>Islands</td><td>Nantucket and Dukes (includes Elizabeth Islands)</td></tr>
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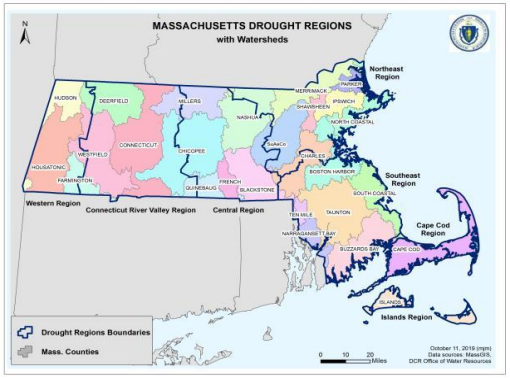
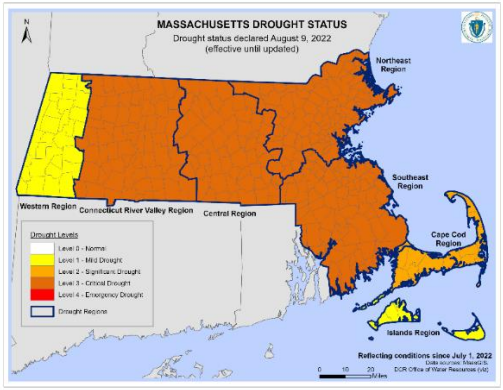


During a drought, these regions may be adjusted based on the specific local conditions. For example, drought analyses may show that drought declarations should be made on an individual county or watershed basis.

In addition, the Drought Plan establishes four Drought Levels, each with specific guidance for outdoor water use:

Level 1, Mild	Level 2, Significant	Level 3, Critical	Level 4, Emergency
1 day per week watering, before 9 am and after 5 pm	Hand-held watering only, before 9 am and after 5pm	No nonessential outdoor water use	No nonessential outdoor water use

The amended regulations call for nonessential water use restrictions in accordance with the severity of drought conditions in each Drought Region, not on a statewide basis. The map below (July 2022) is an example of differing drought levels across Massachusetts which would correspond to differing restrictions on nonessential outdoor water use.

	
The State Hazard Mitigation and Climate Adaptation Plan (SHMCAP) (2018) stresses importance of long-term drought resilience. The 2019 Drought Management Plan was updated to address climate issues. Linking drought restrictions is appropriate and important.	The amended regulations have been crafted in consultation with the updated 2019 Massachusetts Drought Management Plan. The amended regulations will minimize the impacts of drought conditions on both water supply systems and natural resources and address broad drought impacts identified as a statewide vulnerability in the 2018 Massachusetts State Hazard Mitigation and Climate Adaptation Plan.
There are better ways to address climate change concerns. Advancing the search and permitting of new sources and eliminating downstream releases will do more to protect water systems from climate change than the current regulatory proposal.	The amended regulations are targeted toward efficient use of a valuable, and not unlimited, resource during drought conditions. Projections indicate that drought frequency, intensity, and duration might increase as the climate warms; more intense droughts will have negative impacts on both groundwater and surface water resources. Water conservation, particularly during drought conditions, helps suppliers optimize their existing supplies and potentially avoid the need for new sources by reducing peak demand. The amended regulations are also intended to further objectives other than protecting water supplies from climate change. The Water Management Act requires MassDEP to comprehensively manage competing uses and provide reasonable protection for a wide range of interests. By protecting other water uses in addition to public drinking water supplies, these regulations also protect water resources such as surface water and groundwater, benefit public health and safety, and allow for economic growth. The proposed regulations do not preclude suppliers from seeking new sources of water supply which may result in increased system capacity, and which may be appropriate for water supply planning purposes. However, reducing water use peaks during drought conditions can benefit public water suppliers financially by postponing or

	eliminating the need to develop additional sources to meet summer spikes in water use and can ensure that they have the water they need should drought conditions persist over a long period. Likewise, while eliminating downstream releases would allow a water supplier to have more water for its customers' use, the requirement of downstream releases addresses the need to provide sufficient streamflow for other uses that are also protected under the Water Management Act such as habitat for aquatic ecosystems, navigation, and/or recreation. The amended regulations promote resiliency as the climate changes by minimizing the impacts of drought on public water supply sources and natural resources such as wetlands and streamflow, which can all be adversely impacted by water withdrawals. The regulations also protect other interests that the Water Management Act seeks to protect against drought-impacts. These include public health, public safety, water quality, agriculture, and the economy, as described above in #2.
7. All suppliers should be able to develop their own drought plan – AWWA drought preparedness guidance and 310 CMR 22.04(13) Emergencies	
Require system specific drought management plans based on American Water Works Association's "M60 Drought Preparedness and Response" manual (M60 manual). Every Public Water System is unique, and the regulations do not give water systems the flexibility to craft the most appropriate drought response for their system.	The purpose of the proposed regulations is to minimize the impacts of drought conditions on both water supply systems and natural resources and balance competing uses of our water resources. The amended regulations restrict nonessential outdoor water use during drought conditions in order to protect water resources in the natural environment, as well as preserving water for public health and safety, and economic development. The focus of AWWA guidance on drought planning is exclusively on maintaining the integrity of the water supply source and the supplier's ability to meet the health and safety needs of the public water supply customer. It does not address the Department's responsibility to also protect "the natural environment of the water in the commonwealth," and to "ensure[] … a balance among competing water withdrawals and uses." M.G.L. c. 21G, § 3. MassDEP supports every supplier developing a comprehensive plan based on the M60 manual, which would address all aspects of the supplier's drought planning. MassDEP's Water Management Program grant funding program could potentially support a supplier developing an M60-based drought plan. Nothing in the amended regulations prevents the registrant from developing an AWWA-based drought plan,
Amend 310 CMR 22.04(13) to ensure that every Public Water System in the state has a system-specific drought plan as a component of their Emergency Response Plan (to be developed within 5 years of promulgation of the regulation), containing triggers and response actions based on the water system's capacity. Commenter offers that this will provide a much more meaningful opportunity to enhance water systems' resiliency to climate change than the current regulatory proposal.	
The current "Multi-Year Drought Storage" criteria for letting suppliers develop a system-specific analysis is not based on sound risk science or water resources practice.	

Strike the language in 36.07(2)(c)(3) and replace it with the following: *"A registrant may implement non-essential outdoor water use restrictions in accordance with an accepted drought management plan instead of the restrictions described in 310 CMR 36.09(2)(c)1. The Department will accept system-specific drought plans that are developed in accordance with American Water Works Association's "M60 Drought Preparedness and Response" manual, or other state-endorsed drought plan guidance."*	or from adopting restrictions that are more stringent than the amended regulatory requirement, if appropriate. The focus of 310 CMR 22.04(13) is on planning for emergencies due to equipment failure, contamination, problems with chemical additives, vandalism, staffing, electric blackouts or any other equipment failure, human act, or natural or human made disaster. This regulation does not protect water resources in the natural environment or address the changes that climate change is causing. Requiring drought planning under this provision of the regulations would require reorienting a regulation that is focused primarily on the supplier's ability to meet the health and safety needs of its customers. The amended regulations augment any local plans that do not specifically focus on natural resource protection during times of drought when those resources are particularly vulnerable.
Withdraw current proposed regulation and meet with representatives of communities with their own water departments to get input on how these regulations could be made to better assist them in their regular activities.	MassDEP is available to meet with individual suppliers to assist them in meeting their regulatory obligations, and MassDEP can assist them in explaining the regulatory requirements. However, the purpose of these amended regulations is to minimize the impacts of drought conditions at a regional level. It is not intended to account for each individual supplier's circumstances but instead requires use changes on drought region scale when conditions become dry. The regulations target efficient use of a scarce resource when drought conditions put stress on water supply systems and natural resources. These regulations are timely as Massachusetts has had significant droughts in 2016, 2020 and 2022.

8. Alternative drought management planning and nonessential outdoor water use restrictions for surface water supplies with multi-year storage	
Comments on the following definition: Multi-Year Drought Storage means a registrant's reservoir capacity, as determined by the Department, of not less three times the sum of a registrant's authorized withdrawal and any required reservoir release established by statute, regulation, permit or other approval issued by a state or federal agency. Multi-Year Drought Storage does not include the volume of water below intake and does not require an emergency declaration or order for use.	Any eligible public water supplier that chooses to pursue restrictions pursuant to 310 CMR 36.07(2)(c)3. will not be exempt from restrictions on nonessential outdoor water use. Rather, restrictions will be based on actual or modeled historical reservoir levels used to trigger outdoor water use restrictions. Upon consideration, the Department has determined that the definition of multi-year drought storage may not adequately account for reservoir inputs, even during times of extended drought. The definition assumes no inputs during the multi-year

Comments were received that: • the definition of multi-year drought storage is too restrictive and does not recognize the environmental benefits of many reservoirs • no surface water supplies should be allowed an alternative, and potentially less restrictive, pathway to implementing restrictions on nonessential outdoor water use during drought • the definition of multi-year drought storage could have the effect of "exempting" the largest water suppliers in Massachusetts from the requirements	period, i.e. no rainfall, which has not happened to date in the Massachusetts period-of-record. Therefore, the definition has been changed to allow: • storage of "not less than **two** times…" rather than "three times", and • the Department to consider available supplies, including those requiring an emergency declaration, for use when determining a registrant's reservoir capacity. This consideration will not impact the Department's authority to require a water supplier to submit a plan to expeditiously end a state of water supply emergency should the supplier file for an Emergency Declaration under M.G.L. c. 21G, § 15. Emergency Declarations issued in response to drought include strict water conservation measures. This is the revised definition in redline: Multi-Year Drought Storage means a registrant's reservoir capacity, as determined by the Department, of not less than two~~three~~ times the sum of a registrant's authorized withdrawal and any required reservoir release established by statute, regulation, permit or other approval issued by a state or federal agency. Multi-Year Drought Storage does not include the volume of water below intake elevations~~and does not require an emergency declaration or order for use~~.
To submit a Drought Plan for approval and exemption, the regulations require a minimum of three times the authorized withdrawal plus any required releases in storage. The American Water Works Association's "M60 Drought Preparedness and Response" manual (M60 manual) has no reference to three-times storage capacity, or any other storage requirement, for the development of a risk analysis that forecasts supply in relation to demand. The criterion makes it such that MWRA will be the only water system that qualifies for this exemption. If these regulations move forward, an exemption opportunity must also exist for other surface and groundwater systems with system-specific drought plans.	The amended regulations do not include an "exemption" for nonessential outdoor water use restrictions. The regulations contain a provision that suppliers with surface water supplies with multi-year drought storage (>2 years of storage plus any required releases) may implement restrictions in accordance with an accepted drought management plan that includes modeling of the reservoirs' expected drawdown and refill under various drought conditions, and responses that include enforceable restrictions on nonessential water use at specific drought triggers. To qualify for acceptance by MassDEP, the final regulations require that the drought management plan must regulate non-essential water use in a manner that is protective of public health and safety, protection of reservoir capacity and meets many other criteria as set forth in 310 CMR 36.07(2)(c)3. MassDEP encourages all suppliers to develop drought management plans using the guidance in the American Water Works Association's M60 Drought Preparedness and Response, which provides tools and methods designed to help water managers who are facing water shortages. However, this document narrowly focuses on meeting demand as a water supplier during a drought and does not address the need to protect the other important and various water uses protected by the Water Management Act. These include protecting the natural environment of water,

<table>
<tr><td></td><td>allowing continued and sustainable economic growth, and increasing the social and economic well-being and safety of the Commonwealth's residents and work force. Since the purpose of the amended regulations is to minimize the impacts of drought conditions and protect all of these interests, MassDEP has determined that at least two years of storage should be available before allowing an alternative implementation option for surface water suppliers.</td></tr>
<tr><td>Prior to a public water supplier implementing an individual drought plan and nonessential outdoor water use restrictions pursuant to 310 CMR 36.07(2)(c)3., MassDEP should not simply "accept" the supplier's individual drought plan. MassDEP should require public notice and a public comment period for each individual drought plan, accept comment and then "approve" the drought plan.</td><td>The use of the word "accept" is consistent with other provisions for registrations in the WMA regulations. [See definition of "Registrant" at 310 CMR 36.03 and 310 CMR 36.10(3).] Individual public comment and notice periods are not required for each individual drought plan. The criteria that the plans must meet are specified in the regulations and MassDEP will evaluate the draft plans against those criteria.</td></tr>
<tr><td>Add a clause to the regulations giving MassDEP authority to reconsider this exemption should MWRA expand its system to provide more water to new or existing customers, to be reviewed every five years.</td><td>Registrants with individual drought plans will be required to submit updated plans with future requests for registration renewals.</td></tr>
<tr><td colspan="2">9. Potential health impacts</td></tr>
<tr><td>Water restrictions could increase water age in the system, further exacerbating water quality concerns and compromising compliance with SDWA requirements. The specific issues cited in the comment are disinfection byproducts (DBP).</td><td>The Department will continue to prioritize protection of public health and safety and to work with water suppliers to address water quality matters on a case-by-case basis. Should water quality issues arise at any time, the amended regulations will not impede suppliers' ability to flush their systems as needed.

MassDEP's review of statewide annual precipitation records, drought declaration records and Maximum Contaminant Level (MCL) violations does not indicate a correlation between drought declarations and Trihalomethane (THM) MCL violations.

<table>
<tr><th colspan="2">Most severe Drought Level seen in any Drought Region in the year</th></tr>
<tr><td>Drought Advisory</td><td></td></tr>
<tr><td>Drought Watch</td><td></td></tr>
<tr><td>Drought Warning</td><td></td></tr>
<tr><td colspan="2">The updated 2019 Drought Plan triggers were used during the 2020 season. Most of the state reached a Level 2 drought, which is roughly analogous to the former Drought Watch. During 2022 most of the state reached a Level 3 drought, analogous to the former Drought Warning. Complete data for 2022 is not available at this time.</td></tr>
</table></td></tr>
</table>

YEAR	THM MCL Violations	YEAR	THM MCL Violations
1996	1	2011	9
1997	3	2012	4
1998	2	2013	11
2000	1	2014	7
2002	1	2015	10
2003	2	2016	9
2004	5	2017	10
2005	9	2018	19
2006	12	2019	16
2007	11	2020	8
2008	7	2021	7
2009	3	2022	6 – data incomplete
2010	5		

The more detailed data shows that some communities experience multiple violations in a year, and communities with violations are more likely to have violations in subsequent years. Violations occur in systems with WMA permits and in registered-only systems, *i.e.*, in communities with, and without, nonessential outdoor water use restrictions. Given the small sample size, it is hard to draw conclusions, but MCL violations do not appear to correlate strongly with either drought conditions or with nonessential outdoor water use restrictions.

Costs

10. PWS systems' reliance on revenue from sales during drought to fund capital costs
Regulations will result in rate increases

It is fundamentally unsustainable for water systems to rely on nonessential water sales during droughts to fund capital costs and provide consistent service. Water rates should be fair and equitable and provide sufficient funding for essential maintenance and improvements to public water supplies. This can be achieved by adjusting rate structures.

The setting of rates is outside the scope of this rulemaking. The goal of the amended regulations is to prioritize essential uses of water during drought conditions for the benefit of the Commonwealth's residents, which will also likely result in a benefit to water resources in the natural environment during times of drought-related stress. The regulation does not direct that any particular change to rates is required or necessary.

Revenues generated in dry years provide the buffer for rate stabilization in wet years. Nonessential outdoor water use (primarily lawn watering) generates revenue from those who can afford it. Residents are concerned about effects on their community, particularly increases to water rates.	However, MassDEP recognizes that both municipal and privately-owned water suppliers do have to grapple with the many legal, technical and fairness aspects of rate-setting. There are a number of links on the mass.gov website that suppliers might find helpful (www.mass.gov/service-details/water-rates). There are also many resources available on rate setting from the American Water Works Association, including Manuals: M1 Principles of Water Rates, Fees, and Charges M29 Water Utility Capital Financing M47 Capital Project Delivery M54 Developing Rates for Small Systems To date, the Water Management Program has issued permits to approximately 90 public water supply systems with restrictions on their nonessential outdoor water use during the summer months. Those with restrictions continue to successfully operate their systems with limits on nonessential outdoor water use. These amended regulations apply a management requirement to registered-only systems that many permittees have successfully navigated for years.

11. Rate increases resulting from these regulations will disproportionately impact lower income customers	
Conditioning Registrations will have financial impacts and exacerbate socioeconomic inequities. Raising rates will disproportionately impact lower income customers. Wealthier homeowners water large lawns, not those barely getting by economically. Lawn watering produces revenue from those who can afford it.	Water rates can be structured in ways that will not exacerbate socioeconomic inequities and injure less affluent customers. Rate structures can include a base charge for all customers that includes a minimal amount of water use (thus providing those who use little water with a reliable bill for budgeting their resources). See the question above (10.) for references to more material on rate structures and rate setting.
12. Impact of emerging contaminants and other water quality issues on PWS	
PFAS and other water quality issues are likely to lead to more infrastructure development in the future as suppliers must develop new supplies to augment or replace sources lost to PFAS	MassDEP shares public water suppliers' concerns about PFAS and other emerging contaminants and will continue to work closely with suppliers to identify and address the impacts of all contaminants.

	Conserving water by implementing restrictions during times of drought will help to further the availability of supplies that have not been impacted by PFAS or other contaminants.
13. Concerns about PWS finances and ability to fund current and future infrastructure needs.	
Public water suppliers need state financial support, regardless of these regulations, to address huge infrastructure needs and growing regulatory requirements for testing, monitoring, and need for new sources as contamination (PFAS) closures increase. If these regulations are adopted, the Commonwealth must develop a new fund to help Public Water Systems make up for shortfall in revenues due to the implementation of water use restrictions • PWSs have huge unmet needs to fund repair and replacement of aging infrastructure. Placing restrictions on registrants will further lower funds available. • Will force rate hikes with no guarantee of environmental improvement. • PWSs need funds for infrastructure improvements, not streamflow. • Will hinder economic development. • Will divert financial resources from the management of water supply infrastructure.	The issue of long-term infrastructure needs is beyond the scope of these Water Management regulations and will not be substantially affected by nonessential outdoor water use restrictions during times of declared drought. However, State Revolving Fund financing is increasing as a result of the federal American Rescue Plan Act (ARPA) and the Bipartisan Infrastructure Law. To date, the Water Management Program has issued permits to approximately 90 public water supply systems with restrictions on their nonessential outdoor water use during the summer months. Those with restrictions continue to successfully operate their systems with limits on nonessential outdoor water use. These amended regulations apply a management requirement to registered-only systems that many permittees have successfully navigated for years. Additional information on rate setting is included above in sections on "PWS systems' reliance on revenue from sales during drought to fund capital costs," "Regulations will result in rate increases," and "Rate increases resulting from these regulations will disproportionately impact lower income customers."
14. 24-Months for implementation of enforcement capability for registrants	
Comments were received opposing the provision giving municipalities 24 months to implement enforceable restrictions limiting nonessential outdoor water use saying that: • 24 months was too slow for implementation given the increasing frequency of droughts, and • 24 month was too quick for ensured implementation because changes to bylaws or ordinances sometimes require actions and approvals beyond the purview of the public water systems making it impossible to implement the requirements within 24 months. An alternative proposed by a commenter:	The amended regulation does not give registrants authority to enforce the required nonessential outdoor water use restrictions and issue fines or penalties to those who do not comply. In Massachusetts, different municipalities and water suppliers have different avenues for adopting such authority. • Many municipal water authorities (water districts, water & sewer commissions, etc.) operating under state legislative authority (*e.g.*, Chapter 40N, Model Water & Sewer Commissions), can adopt rules and regulations quickly. • For municipal suppliers governed by a City Council, adopting an ordinance takes longer, on the order of months and typically within one year. • Water suppliers in towns that must adopt bylaws will suffer the greatest time constraints. Towns typically have one chance each year to bring a proposed bylaw

"no later than 24 months after the issuance statement, the registrant shall put forward for approval of the governing body enforceable restrictions limiting nonessential outdoor water use."	before town meeting (unless they go through the effort and expense of calling a special town meeting), and after a bylaw is approved at town meeting, it must be reviewed and approved by the Attorney General, which typically takes several months. In this case, getting enforcement authority can easily take more than one year. To give all municipalities a reasonable and realistic timeframe for adopting enforcement authority, the regulations allow up to 24 months for full adoption of enforceable restrictions. MassDEP believes that this is enough time to prepare, review and adopt the measure.
15. Proposed alternative definition of Nonessential Outdoor Water Use	
NOTE: Language in black is from the 2021 proposed regulations. Language in blue is added by the commenter. PROPOSED 2021 Definition: 1. Nonessential Outdoor Water Use means uses that are not required: • for health or safety reasons; • by statute or regulation; • for the production of food, including vegetable gardens, and fiber; • for the maintenance of livestock; • to meet the core functions of a business including but not limited to: ○ Plant nurseries as necessary to maintain stock ○ Golf courses as necessary to maintain tees, greens, and limited fairway watering per 310 CMR 36.07(2)(c) 2.a. through d. ○ Golf courses with an event venue as part of their core business and other event venues when limited to watering by hand-held hose or drip irrigation as necessary to maintain gardens, flowers, and ornamental plants ○ professional washing of exterior building surfaces, parking lots, driveways and/or sidewalks as necessary to apply surface treatments such as paint, preservatives, stucco, pavement, or cement in the course of construction, reconstruction, or renovation work; PROPOSED ADDED LANGUAGE BY COMMENTER: 2. The following uses may be allowed when mandatory restrictions are in place: • irrigation of public parks and public recreation fields; or	The first two items on the commenter's list of uses that may be allowed when mandatory restrictions are in place are already included in the new definition of nonessential outdoor water use. Registrants have the option to authorize the fourth item during the two lower levels of drought declaration, but not during the two higher levels of drought declaration. This is MassDEP's determination of how best to balance competing water uses during a drought. The washing of vehicles as necessary for operator safety is not a nonessential outdoor water use (see exception for "health and safety reasons"). With regard to the third and fifth items on lawn watering unrelated to new construction, MassDEP has determined that this should be considered a nonessential outdoor water use to balance competing water uses during a drought and preserve the resource for other uses. MassDEP does not think it is useful to try to list in the regulations examples of nonessential outdoor water use but may choose to issue guidance on this topic in the future. MassDEP agrees that the exception for limited watering of gardens used for events should be expanded beyond golf courses and included this amendment in the revised draft regulation and the final regulation.

• irrigation to establish a new lawn as necessary to stabilize soil in response to new construction or following the repair or replacement of a Title 5 system; or • irrigation to establish a new lawn and new plantings during the months of May and September; or • irrigation of gardens, flowers, and ornamental plants by means of a handheld hose or drip irrigation systems; or • irrigation of lawns by means of a hand-held hose only; or • washing of vehicles as necessary for operator safety 3. Nonessential outdoor water uses that are subject to mandatory restrictions include: • irrigation of lawns via automatic irrigation systems or sprinklers; • filling swimming pools; • washing vehicles, except in a commercial car wash • washing exterior building surfaces, parking lots, driveways, or sidewalks 4. To the extent feasible, all summer outdoor water use should take place before 9 am and after 5 pm when evaporation and evapo-transpiration rates are lower.	
16. Irrigation of public parks and public recreation fields	
Comments received included: • Parks and recreational fields should not have a blanket exemption, restrictions should be limited in time allowed, or should be limited in a tiered approach modeled on the golf course restrictions (no proposed or model approaches were suggested). • By not irrigating public parks and recreational fields, governmental agencies would provide a model for homeowners who cannot water their lawns. • Public parks and recreational fields are a significant public investment that could be lost if not maintained during droughts and that would be very expensive to replace once lost. • Public parks and recreational fields provide a significant public benefit, particularly in urban and environmental justice communities, by providing a venue for exercise and community building that would be compromised if the areas are not maintained. • Injury is more likely on undermaintained recreational fields. • Public parks and recreational fields provide a significant public benefit, particularly in urban and environmental justice communities where urban	Upon consideration of the comments received in response to the request for specific comment on this issue, the Department revised the amendments to: • Limit the irrigation of recreational fields and public parks during a drought to before 9:00 a.m. and after 5:00 p.m. to ○ ensure irrigation during the times of day when evapotranspiration is lowest and irrigation is most efficient and effective; ○ mirror the basic outdoor water use requirements in Water Management permits; • Include publicly-owned splash pad and swimming pools as exempt from water use restrictions in recognition of the public health benefits of being able to cool down in the heat, particularly in urban and environmental justice communities; • Include irrigation of trees in the public right of way (urban street trees) as exempt from water use restrictions in recognition of ○ the public health benefits of trees in counteracting heat-island effects, particularly in urban and environmental justice communities;

heat-island effects have been shown to increase heat-related disease rates and death rates. • Splash pads at public parks, used for recreation and cooling for small children, should be included as an essential water use. • Irrigation of "trees in the public right of way" (urban street trees) has been shown to reduce urban heat-island effects and should be included as an essential water use.	○ the public investment in planting trees in the public right of way, trees which are already highly stressed and can more easily die during times of drought-related stress; • Expand this provision to exempt from water use restrictions the irrigation of all recreational fields in recognition of ○ the public health benefit of exercise and recreation venues, particularly in urban and environmental justice communities; ○ the public health benefit of preventing injuries. Upon consideration, the Department did not include a tiered approach for irrigation of public parks and recreational fields because of the difficulty of designing and implementing such an approach at the municipal level. Unlike golf courses, which operate a unified irrigation system, municipal park irrigation systems would typically require modifications at each installation.
17. Administrative requirements stemming from the proposed regulations	
36.07(5) allows MassDEP to impose "planning, recording, and reporting requirements necessary to implement the condition described in 310 CMR 36.07(2)." The commenter questions what planning and recording requirements are expected.	The only anticipated reporting requirement will be filing an electronic reporting form similar to the one currently used by permittees (See Notification of Water Use Restriction Form, at https://www.mass.gov/info-details/outdoor-water-use-restrictions-for-cities-towns-and-golf-courses) if nonessential outdoor water use restrictions are needed. Suppliers may need a plan to inform their customers of the restrictions when restrictions will take effect if they do not already have such a plan.
18. Golf course irrigation requirements	
The Department should reconsider the irrigation exemption for golf course greens. Irrigation of golf course greens should not be allowed during drought. Golf course irrigation should be limited to before 9:00 a.m. and after 5:00 p.m.	Irrigation is part of the core function of the golf course's business; without a viable playing course, the business cannot function. The grass on tees and greens cannot be maintained without proper irrigation because of the amount of foot traffic and grass height particularly on greens. Cutting the irrigation times on greens would increase the risk of die-off of the grass with attendant impacts to the ability to use the course in the short-term, and the long-term costs of replacing an integral part of the course.

	As part of required maintenance of a golf course, certain areas will need spot irrigation during the heat of the day to prevent browning and burning the grass. Therefore, some level of irrigation is required as part of the core function of the business between 9:00 a.m. and 5:00 p.m. Finally, the irrigation requirements for registered golf courses are modeled on the drought plans that are required of the 65 golf courses currently permitted under the Water Management Act. Changing the irrigation requirements for greens in the amended regulations would set requirements for registrants that are inconsistent with, and more restrictive than, those for permittees.

19. Procedural concerns	
MassDEP did not follow procedures outlined in M.G.L. c. 21G, § 3, requiring that regulations be developed "after consultation with" and "with the advice of the Water Resources Management Advisory Committee".	This comment was received during the 2021 public comment period. At that time, all appointments to the WMA Advisory Committee had lapsed. In early 2022, all members were appointed to the WMA Advisory Committee. On June 29, 2022, and July 13, 2022, MassDEP consulted the Water Resources Management Advisory Committee to receive their advice on the updated 2022 proposed amendments, prior to their publication for public comment. MassDEP held a public comment period from October 5, 2022, to November 18, 2022, that included two virtual hearings on October 27, 2022, and October 28, 2022. MassDEP presented the proposed amendments to the Massachusetts Water Resources Commission on October 13, 2022. On October 25, 2022, MassDEP consulted again with the WMA Advisory Committee, before the close of the public comment period.
20. Typographical Error	
The language in 310 CMR 36.7(2)(c)4 seems to incorrectly include a reference to 310 CMR 36.7(2)(c)3. thereby inadvertently eliminating the provisions allowing the use of local drought plans by systems meeting the multi-year drought storage definition. Recommend that this be corrected by changing the language as follows:	The following edit was made to 314 CMR 36.07(2)(c)4.: ~~Restrictions~~For withdrawals described in 310 CMR 36.07(2)(c)1. and 2., restrictions at least as restrictive as those in 310 CMR 36.07(2)(c)1. and 2~~.~~., respectively, shall remain in place for the declared drought level until the drought level is changed by the Secretary.

4. Restrictions at least as restrictive as those in 310 CMR 36.07(2)(c)1. and 2. through 3. shall remain in place until the Secretary returns the drought level to "Normal."	