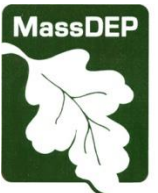


# MassDEP Actions to Address PFAS

Paul W. Locke  
Assistant Commissioner  
MassDEP Bureau of Waste Site Cleanup

617/556-1160

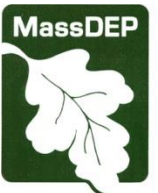
[Paul.Locke@Mass.Gov](mailto:Paul.Locke@Mass.Gov)



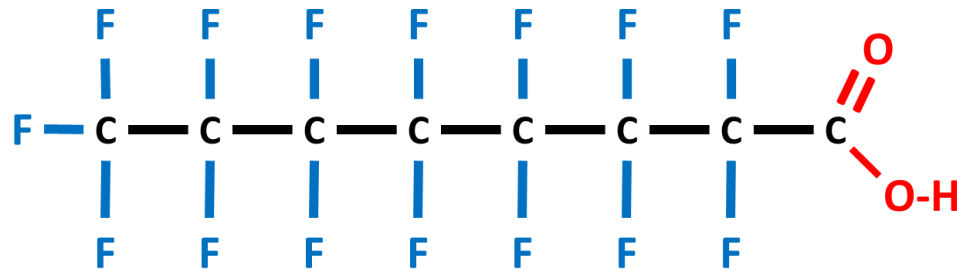
# MassDEP Actions to Address PFAS

(Summary - June 2019)

- What Are PFAS?
- What Are Common Uses of PFAS?
- Where Are PFAS in Massachusetts?
- How Does Massachusetts Regulate PFAS?
- What is Changing?
- How Does This Compare to Other States?
- What is MassDEP's Schedule?
- More Information Online



# What Are PFAS?



## Poly- and perfluoroalkyl Substances

*A family of thousand of compounds with varying structure*  
(e.g, carbon chain length)

- **Extremely stable** – Heat & Stain Resistant, Water repellant
- **“Forever chemicals”** - Very persistent, do not biodegrade
- **Water Soluble**
- **Some are very toxic**
  - Slowly excreted from the body – half lives of years (1-8+ for longer-chain)
  - Developmental risks to fetus/infants
  - Endocrine Disruption
  - Cancers

# What Are Common Uses of PFAS?

- Textile treatments: stain resistance/ water repellency
- Paper coatings: grease resistant
- “Waxes”: some floor, car, ski
- Hairsprays
- “Waterproof” down
- Manufacturing
- Aqueous Fire-fighting Foam (AFFF)



***Most Americans are exposed to some levels of PFAS through use of consumer products***



# What Are Exposures of Concern for PFAS?

Sensitive groups – *including pregnant women, nursing mothers and infants* – drinking (and cooking with) contaminated water in a residential setting

(sensitivity – concentration – frequency)

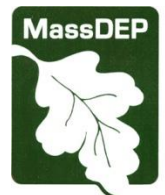
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Water uses that pose (relatively) less concern include:

- Water use by individual not considered in “sensitive group”
- Non-residential water use – *restaurants, workplace*
- Water use for other purposes – *bathing, washing vegetables*

Ways an individual may reduce potential exposure:

- Drink & cook with bottled water
- Use a home water treatment system (NSF certification)

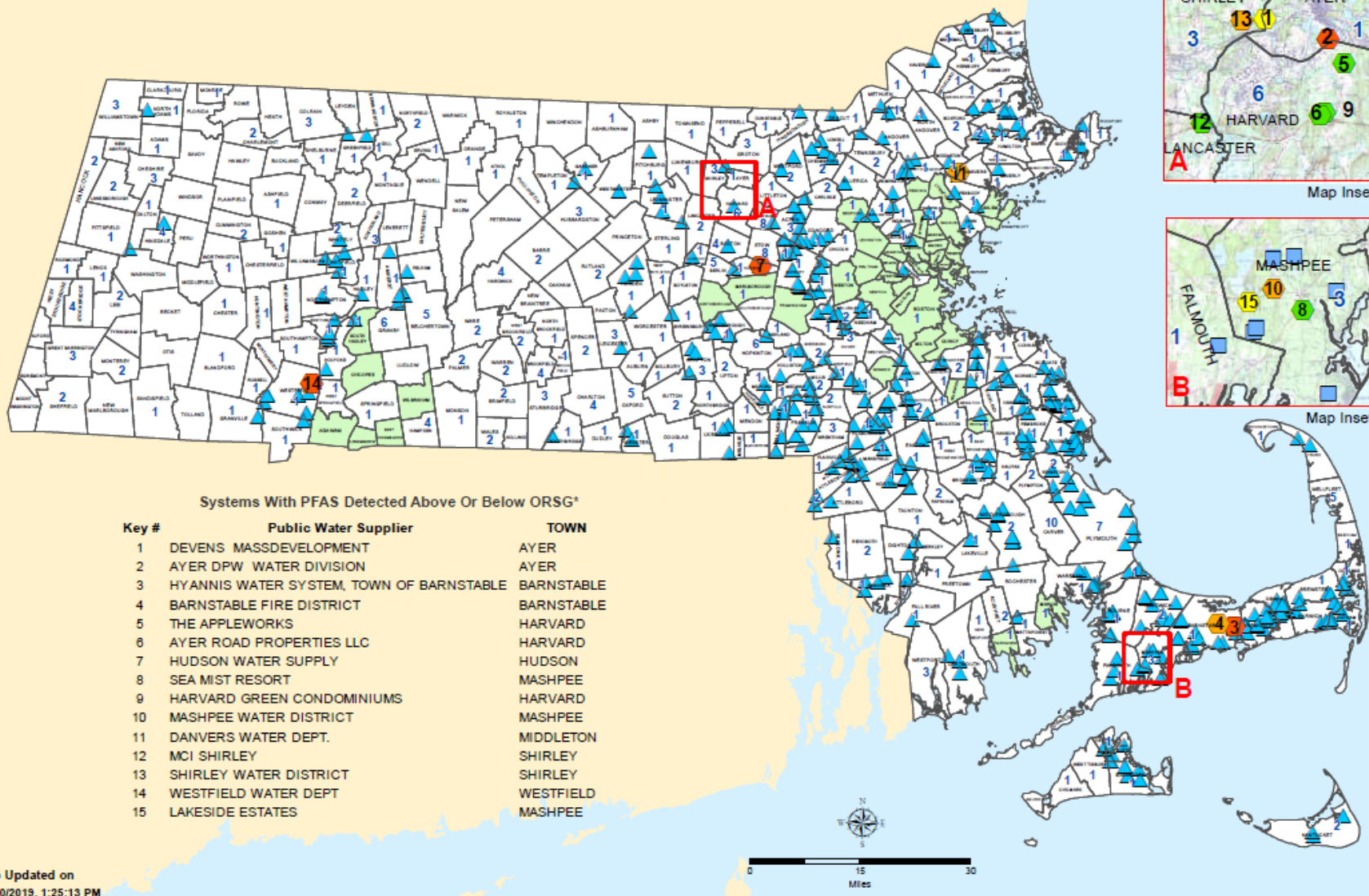




Charles D. Baker  
Governor  
Karyn R. Polito  
Lieutenant Governor  
Kathleen A. Thachalides  
Secretary of Energy  
and Environmental Affairs

# Where Are PFAS in Massachusetts?

## PFAS Testing of Drinking Water



### Municipal Public Water Systems

- Public Water Supply Sources Tested (locations are approximate)
- PFAS detected above ORSG\*
- PFAS detected below ORSG

### Non-Municipal Public Water Systems

- PFAS detected above ORSG\*
- PFAS detected below ORSG



Towns That Purchase Water  
No PFAS Detected

Number of Community Water  
Systems Within Each Town

\* ORSG = MassDEP Office of Research and Standards  
Guideline 70 ppt (70 nanograms per liter)

EEA PFAS information and PWS Data Portal links.  
<https://eeonline.eea.state.ma.us/portal/#/search/drinking-water>  
<https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas>

Please note:  
Not all tested sites of a public water system may fall within a town's boundaries.

Date Disclaimer:  
The map is created from a subset of data from MassDEP GIS and MassDEP BWR Groups. MassDEP makes no claims, no representations, and no warranties, expressed or implied, concerning the validity (expressed or implied), the reliability or the accuracy of the GIS data and GIS data products furnished by MassDEP, including the implied validity of any use of such data. For specific information on your water supply, please consult your water bill to contact your water company.

Date Source: MassDEP, MassGIS - Map Produced by MassDEP GIS Group June, 2019 - BWR, PFAS, ORSG, map.mxd

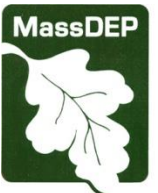
# How Does Massachusetts Currently Regulate PFAS?

## Public Water Supplies:

- MassDEP uses a guideline developed by the Office of Research & Standards (an “ORSG”) in combination with a case-specific risk assessment (if needed).
- **The ORSG is 70 parts-per-trillion (ppt) for the sum of 5 PFAS**

## Waste Site Cleanup:

- MassDEP uses generic criteria for notification and case-specific risk assessment for cleanup.





# What is Changing?

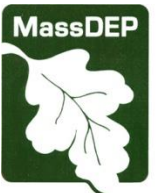
- MassDEP is considering a more stringent value – 20 ppt for the sum of 6 PFAS – for drinking water.
- On April 19<sup>th</sup>, MassDEP proposed a groundwater cleanup standard (GW-1) of 20 ppt for  $\Sigma$  6 PFAS
- The process to revise the ORSG and a develop/promulgate a drinking water standard (MCL) has been initiated.
- The 20 ppt number is not yet final... it is proposed.





# What Is MassDEP's Schedule?

- **ONGOING:** work with Public Water Suppliers
  - Preparing for a likely lower guideline/standard
  - Communicating with their consumers
  - Implementing voluntary short-term actions
  - Planning for and implementing permanent treatment
- **APRIL 19:** Published DRAFT PFAS Cleanup Standards
  - Part of a larger package of regulation revisions
  - Seek comment/input from stakeholders – public hearings in May 2019
  - Final values likely to be implemented Fall 2019
- **INITIATING:** Revisions to ORSG & new MCL
  - 2nd MCL Stakeholder Meeting June 20<sup>th</sup> ...*view LIVE on-line!*
  - ORS working with its Health Effects Advisory Committee to review toxicology, etc... for possible ORSG revision
  - Process will continue through end of 2019



# HOW DOES THIS COMPARE TO OTHER STATES?

parts per trillion in drinking water – updated 4/9/2019

	PFOS	PFOA	PFNA	PFHxS	PFHpA	PFDA
<b>USEPA</b> Health Advisories	<b>70</b> Sum of two		NA	NA	NA	NA
<b>ATSDR</b> Based on ATSDR toxicity value	<b>7</b>	<b>11</b>	<b>10</b>	<b>70</b>	NA	NA
<b>NY</b> Recommended MCL	<b>10</b>	<b>10</b>	NA	NA	NA	NA
<b>NJ</b> MCL or proposed	<b>13</b>	<b>14</b>	<b>13</b>	NA	NA	NA
<b>VT</b> Health advisory/ emergency rule	<b>20</b> Sum of five					NA
<b>MA</b> Current ORSG	70 (current) -> 20 (proposed) Sum of five -> Sum of six					NA
<b>CT</b> Action Levels	<b>70</b> Sum of five					NA
<b>CA</b> Interim notification levels	<b>13</b>	<b>14</b>	NA	NA	NA	NA
<b>MN</b> Drinking water guidelines	<b>15</b>	<b>35</b>	NA	<b>47</b>	NA	NA
<b>NH</b> Proposed MCLs	<b>70</b>	<b>38</b>	<b>23</b>	<b>85</b>	NA	NA
<b>Most other states</b> (EPA value by default)	<b>70</b>		NA	NA	NA	NA

# More Information Online

<https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas>

## TABLE OF CONTENTS

- ▼ What are PFAS and why are they a problem?
- ▼ PFAS detected in drinking water supplies in Massachusetts
- ▼ Health advisories and downloadable fact sheets
- ▼ Development of a PFAS Drinking Water Standard (MCL)
- ▼ Laboratories and testing for PFAS
- ▼ Bottled water and home water filters
- ▼ PFAS and Waste Sites
- ▼ Take-back program for legacy firefighting foam
- ▼ PFAS in Wastewater Residuals
- ▼ Links to additional information

