



Massachusetts Department of Public Health

# EMERGING CONTAMINANT SURVEILLANCE: PFAS IN BOTTLED WATER

NOVEMBER 2022

*Bureau of Environmental Health  
Food Protection Program*

# Food Protection Program – PFAS Bottled Water Pilot

- In SFY22 and SFY23, the Governor and Legislature funded a Bureau of Environmental Health (BEH) emerging contaminant (PFAS) surveillance program.
- In SFY22, MDPH's Food Protection Program (FPP) completed Phase 1 of a bottled water testing program by purchasing samples from retail stores that sell water from out-of-state bottling plants.
- In SFY23, FPP will begin Phase 2 of the bottled water testing program by collecting samples during routine inspections of in-state bottling plants.
- This bottled water testing program supports Massachusetts Department of Environmental Protection's (MassDEP's) recommendations to communities and homeowners to use PFAS-free bottled water when their drinking water has been contaminated with PFAS.

# 18 PFAS Measured by EPA Method 537.1

## MassDEP PFAS6\*

PFHpA (Perfluoroheptanoic acid)  
PFOA<sup>†</sup> (Perfluorooctanoic acid)  
PFNA (Perfluorononanoic acid)  
PFDA (Perfluorodecanoic acid)  
PFHxS (Perfluorohexanesulfonic acid)  
PFOS<sup>†</sup> (Perfluorooctanesulfonic acid)

*\* Massachusetts Maximum Contaminant Level (MMCL) of 20 parts per trillion (ppt) for the sum of the concentrations of six PFAS.*

*† Interim EPA Health Advisory for PFOA = 0.004 ppt, PFOS = 0.02 ppt; Final EPA Health Advisory for GenX = 10 ppt, PFBS = 2,000 ppt*

## Other Measured PFAS

PFHxA (Perfluorohexanoic acid)  
PFUnA (Perfluoroundecanoic acid)  
PFDoA (Perfluorododecanoic acid)  
PFTrDA (Perfluorotridecanoic acid)  
PFTA (Perfluorotetradecanoic acid)  
PFBS<sup>†</sup> (Perfluorobutanesulfonic acid)  
NEtFOSAA (N-ethyl perfluorooctanesulfonamidoacetic acid)  
NMeFOSAA (N-methyl perfluorooctanesulfonamidoacetic acid)  
9Cl-PF3ONS (9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid)  
11Cl-PF3OUdS (11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid)  
ADONA (4,8-dioxa-3H-perfluorononanoic acid)  
HFPO-DA/GenX<sup>†</sup> (Hexafluoropropylene oxide dimer acid)

# Sampling Plan

## Samples

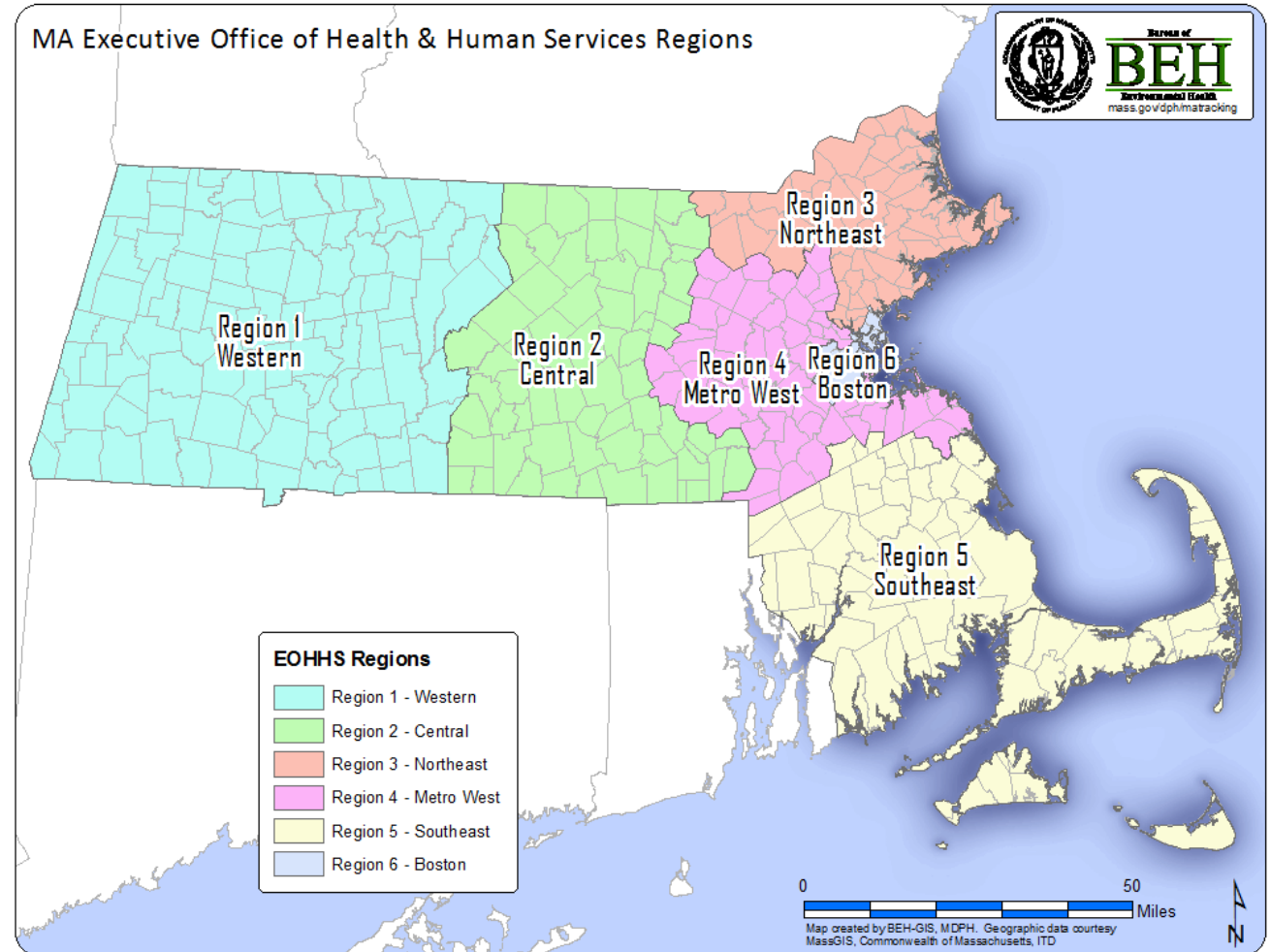
- 300 Bottled water samples
- 30 Brands (10 bottles per brand)

## Locations

- 6 Executive Office of Health and Human Services Regions (EOHHS) regions
- 1 Board of Health (BOH) per region
- 2 stores per BOH/region (12 stores)

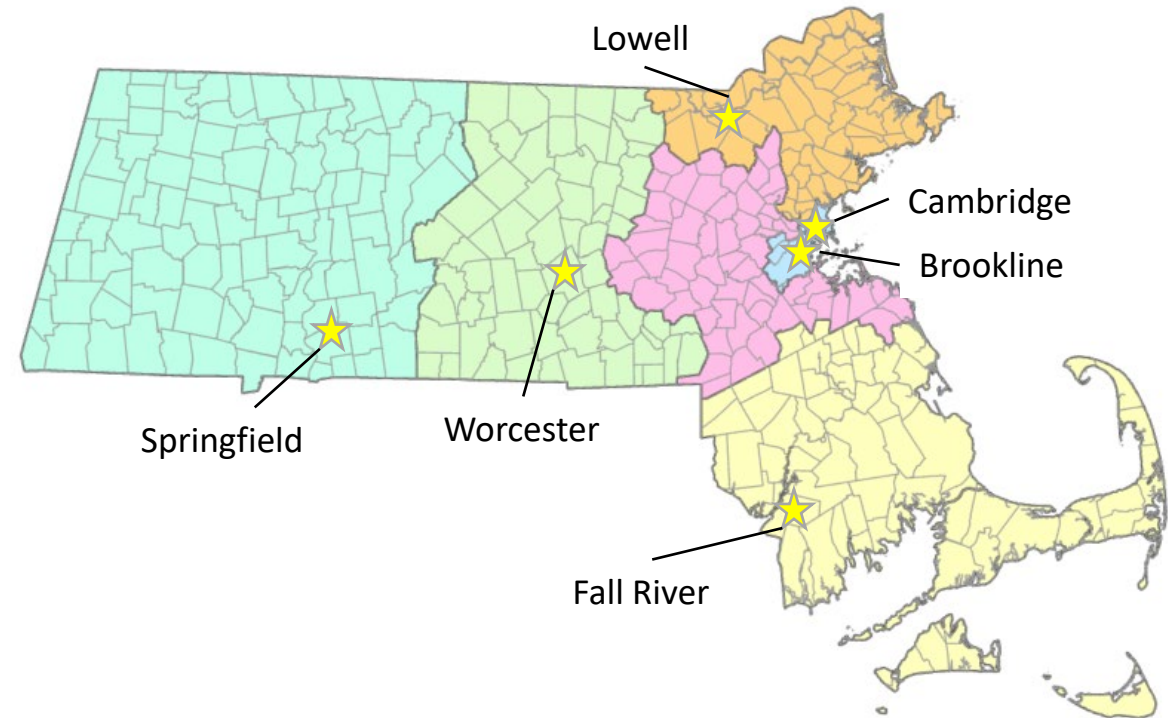
## Quality Assurance (QA) Samples

- 6 trip blanks



# Sampling Locations Across the Commonwealth

Region	Local BOH	Retail Store
(1) Western	Springfield Department of Health and Human Service	W1
		W2
(2) Central	Worcester Division of Public Health	C1
		C2
(3) Northeast	Lowell Health Department	N1
		N2
(4) Metrowest	Cambridge Public Health Department	M1
		M2
(5) Southeast	Fall River Health Department	S1
		S2
(6) Boston	Brookline Department of Public Health	B1
		B2



# Notifications and Outreach

- FPP mailed letters explaining the bottled water pilot program to:
  - Water bottlers,
  - Local BOHs, and
  - Retail food store chains.
- FPP coordinated visits to each retail store with local BOHs
- FPP will publish results on Mass.gov



## The Commonwealth of Massachusetts

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Department of Public Health, Bureau of Environmental Health  
Food Protection Program  
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CHARLES D. BAKER  
Governor

KARYN E. POLITO  
Lieutenant Governor

MARYLOU SUDDERS  
Secretary

MARGRET R. COOKE  
Commissioner

Tel: 617-624-8000  
www.mass.gov/dph

Date

Retail Chain  
Address  
City, St, Zip

In July of 2020, the Massachusetts Department of Public Health (MDPH) advised all water bottlers required to submit an annual application to sell in Massachusetts that they are now required to submit laboratory test results of source water and finished water for Per- and polyfluoroalkyl substances (PFAS). The information provided in that notice is available on-line at [Water Quality Standards for Bottled Water in Massachusetts | Mass.gov](#)

In June of 2022, MDPH will initiate a sample surveillance program to test for PFAS in bottles of water sold in Massachusetts. Samples will be purchased from retail food stores in Massachusetts or will be collected from bottling plants in Massachusetts.

If one of the retail food stores operated by your company is selected for sampling, then the MDPH representative who purchases the water bottles will share a copy of the chain of custody with the manager or person-in-charge of that store. MDPH will contact your local Board of Health in advance of sample collection and invite the health agent to accompany the MDPH sample collector.

Test results from each sample purchased at retail will be shared with the plant which bottled the water, the store which sold the bottle, and the local Board of Health which licenses the retail store if a PFAS exceedance is found, MDPH will correspond with all parties as appropriate. Corrective actions required by MDPH would depend on the level and types of PFAS exceedances.

If you have any questions about this letter, please feel free to contact the Emerging Issues Team in the MDPH/BEH Food Protection Program at [FPP.DPH@mass.gov](mailto:FPP.DPH@mass.gov) or 617-983-4396.

Sincerely,

Michael Moore, Director  
MDPH/BEH Food Protection Program

# Sample Collection Procedure

- Contacted the appropriate manager at the retail establishment.
- Reminded managers of pre-notifications that were sent and shared a copy of the letter explaining pilot MDPH surveillance activities.
- Walked through and selected bottled water products for sampling using a randomized priority order list.
- Collected 10 bottles per bottled water product (at least 250mL/8.5 ounce bottles).
- Took photographs of samples.
- Offered to set aside half of the sample for manufacturers to test.
- Purchased samples and kept receipts for reimbursement.
- Labeled, packaged, and shipped samples with trip blank to laboratory in Wilmington, NC

# Bottled Water Pilot Results

- **All tests of bottled water met PFAS drinking water standards (< 20 ppt)**
  - 287 bottles from 29 brands analyzed for 18 PFAS
  - No bottle had measurable levels of PFAS (> 2 ppt)