



## *On TRAC with PFAS*

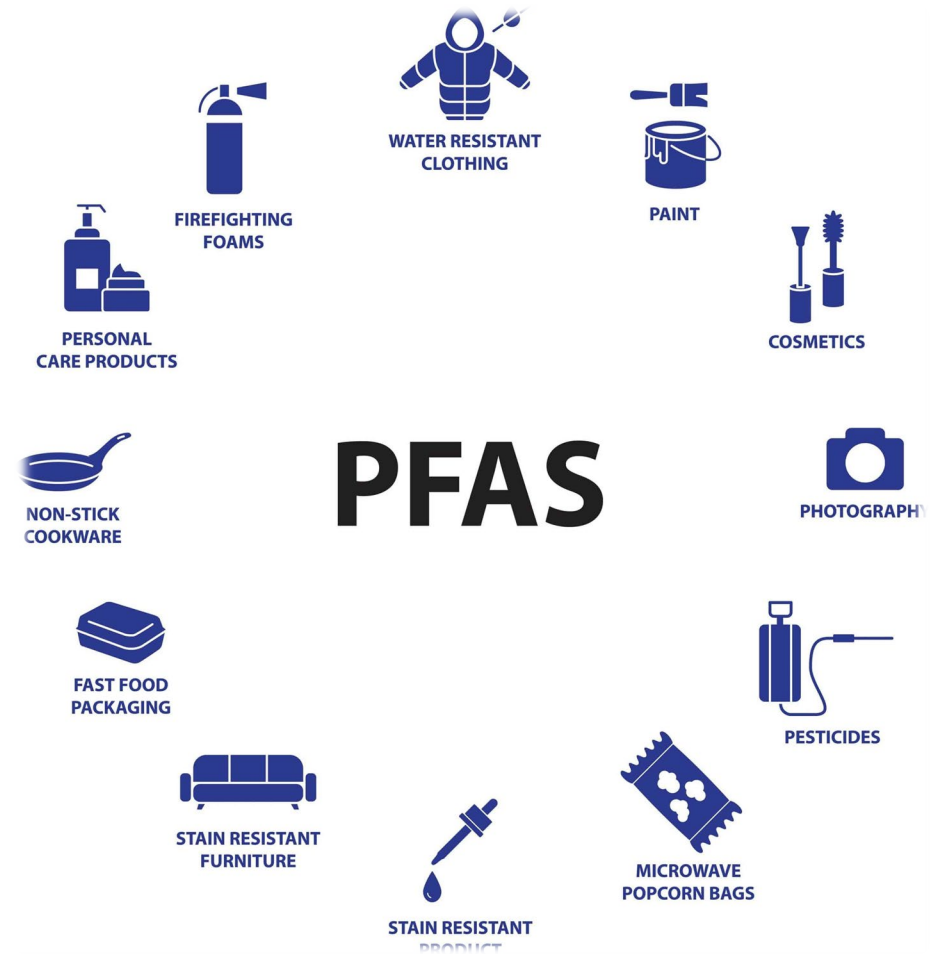
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Matt Dam, Director, TRAC

Wastewater Advisory Committee  
February 7, 2025



# Overview

- Recent PFAS regulatory actions
- PFAS and wastewater and biosolids
- Toxic Reduction and Control (TRAC)





## Recent Regulatory Actions: Federal

- Sampling requirement in NPDES permits for influent, effluent, biosolids, and industrial users
- CERCLA designation of PFOA and PFOS as hazardous substances
- Finalized test methods for 40 PFAS and adsorbable organic fluorine (AOF), EPA Methods 1633 and 1621
- Final Recommended Freshwater Aquatic Life Water Quality Criteria for PFOA and PFOS and benchmarks for 8 other PFAS
- Draft Human Health Ambient Water Quality Criteria Health for PFOA, PFOS & PFBS
- Draft Biosolids Risk Assessment for PFOA and PFOS
- Publicly Owned Treatment Works (POTW) Influent PFAS Study



## Recent Regulatory Actions: State

- MassDEP PFAS and Residuals Technology and Management Study
- MassDEP Wastewater Treatment Plant PFAS Sampling
- Lots of state legislative actions/proposed bills
  - An Act to protect Massachusetts public health from PFAS
  - An Act protecting our soil and farms from PFAS contamination
    - Ban land application of biosolids in MA with measurable PFAS





## PFAS and Residuals Technology and Management Study

Goal: Establish the current landscape for managing wastewater sludge (POTWs) in Massachusetts.

### Part 1: Current and near-term destinations of MA sludge (completed)

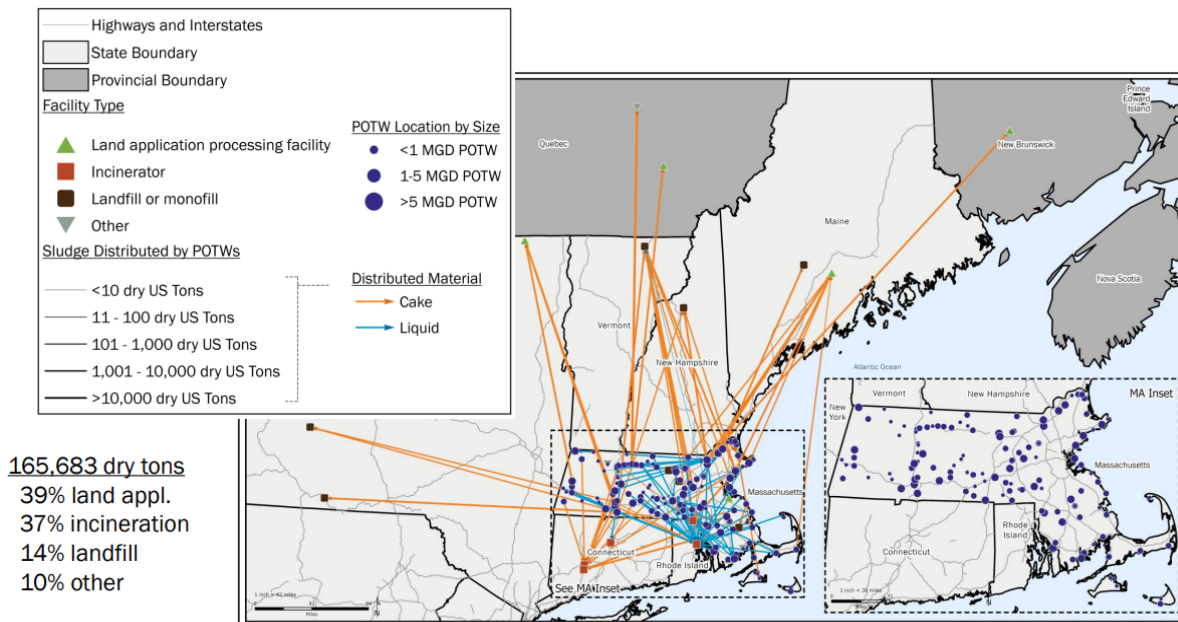
Key findings:

#### 2023 Conditions

- Landfills: Decreasing capacity for sludge acceptance over next 10 years
- Land Application: Northeast processing facilities essentially at capacity
- Incineration: Northeast incineration facilities aging and essentially at capacity

#### 2028 Conditions

- At least ~12,000 dry US tons projected to have no clear outlet (given current management options)



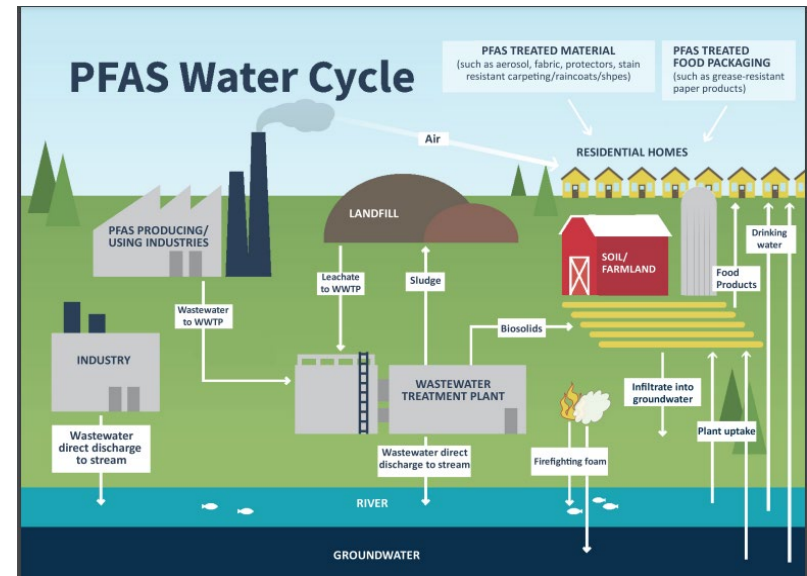


## PFAS and Residuals Technology and Management Study

### Part 2 Project Goals:

How does PFAS impact wastewater sludge management now and in the future?

- Regulatory landscape in Massachusetts and beyond for PFAS in wastewater sludge
- Potential for reduction of PFAS levels in sludge with source control
- PFAS reduction technologies for sludge, wastewater and leachate treatment
- Sludge volume reduction technologies
- Considerations for POTWs and regulators/legislators



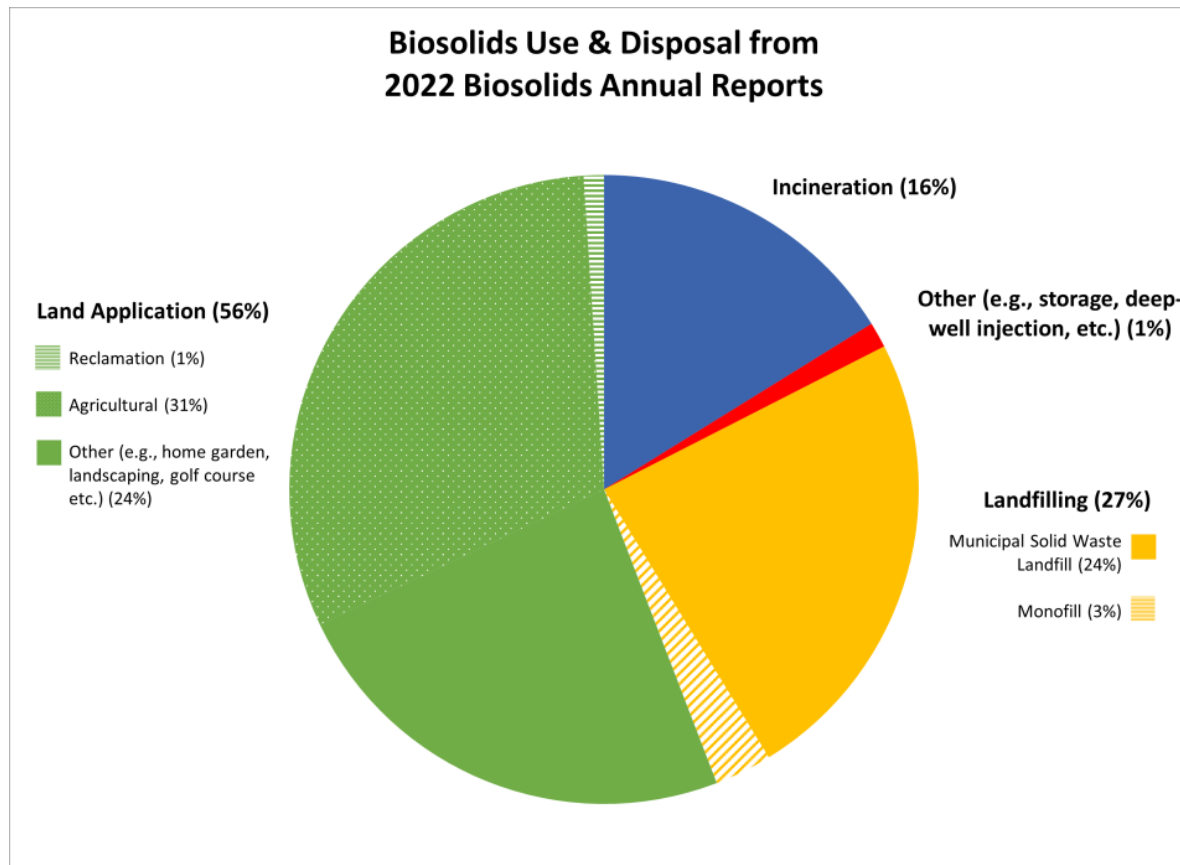


# EPA Biosolids Risk Assessment

## Draft Sewage Sludge Risk Assessment for PFOA and PFOS – Jan. 14, 2025

(<https://www.epa.gov/biosolids/draft-sewage-sludge-risk-assessment-perfluorooctanoic-acid-pfoa-and-perfluorooctane>)

- 60 day public comment period ends March 17, 2025





# PFAS: Effluent Limits and Sampling Methods

- Currently no federal or state effluent limits
- EPA withdrew proposed Effluent Limit Guidelines and standards for certain PFAS manufacturers, under the organic chemicals, plastics and synthetic fibers
- Sampling requirement being added to POTW NPDES permits for influent, effluent, biosolids, and industrial users
- Analytical Methods:
  - 1633: PFAS Analytical Method
    - 40 PFAS Analytes
    - Media: Groundwater, surface water, wastewater, landfill leachate, soils, sediments, biosolids, and biological tissue
  - 1621: Absorbable Organic Fluorine in Aqueous Matrices
    - Measures organofluorine compounds from PFAS and non-PFAS fluorinated compounds such as pesticides and pharmaceuticals





# MWRA and PFAS Sampling

- Deer Island
  - Not required in current NPDES permit. However, samples have been collected proactively by TRAC at DITP and various locations in the service area since late 2020
  - Draft permit requirements
    - Quarterly sampling of influent, effluent, sludge for 40 PFAS compounds
    - Annual sampling of certain types of SIUs (EPA draft permit) vs. all SIUs (state draft permit)
- Biosolids
  - Quarterly PFAS testing since 2019
- Clinton
  - Required under the current NPDES permit – quarterly sampling of influent, effluent, and sludge for 40 PFAS compounds
  - State permit required annual sampling of 11 industrial users from specific categories for 40 PFAS compounds



# MWRA and PFAS Sampling

## PFAS averages and ranges for Deer Island and Local Limits sites

| Sample Type<br>(ng/L = ppt) | PFOA<br>average<br>(range) | PFOS<br>average<br>(range) | PFAS6<br>average<br>(range) | PFAS40<br>average<br>(range) |
|-----------------------------|----------------------------|----------------------------|-----------------------------|------------------------------|
| DITP Influent               | 9<br>(2.7-14.5)            | 10<br>(ND-16.5)            | 25<br>(7.3-42.6)            | 89<br>(42.3-137.9)           |
| DITP Effluent               | 9<br>(6.5-11.4)            | 8<br>(4.9-13.6)            | 23<br>(11.4-36.8)           | 62<br>(44-83)                |
| Residential                 | 8<br>(ND-85)               | 6<br>(ND-98)               | 39<br>(11.5-277.4)          | 62<br>(23.7-138.6)           |
| Background                  | 7<br>(ND-19)               | 21<br>(ND-870)             | 62<br>(13.1-470.9)          | 95<br>(21.8-378.5)           |
| I&I                         | 7<br>(ND-18)               | 8<br>(ND-19)               | 59<br>(22.1-94.1)           | 47<br>(32-68)                |

ND = nondetect

PFAS6 = PFOS, PFOA, PFHxS, PFNA, PFHpA, PFDA

PFAS40 = 40 analytes under method 1633, as required in NPDES permits

DITP influent = South System (AB00) and North System (AD00) averaged

Residential = no commercial or industrial input; 4 sites (2 North, 2 South)averaged for this table

Background = includes some commercial, but not permitted industries, ie stores, restaurants, banks, but can also have some residential; 4 sites (2 North, 2 South)averaged for this table

I&I sites = locations that Operations indicated have high I&I flows (3 sites, North system)

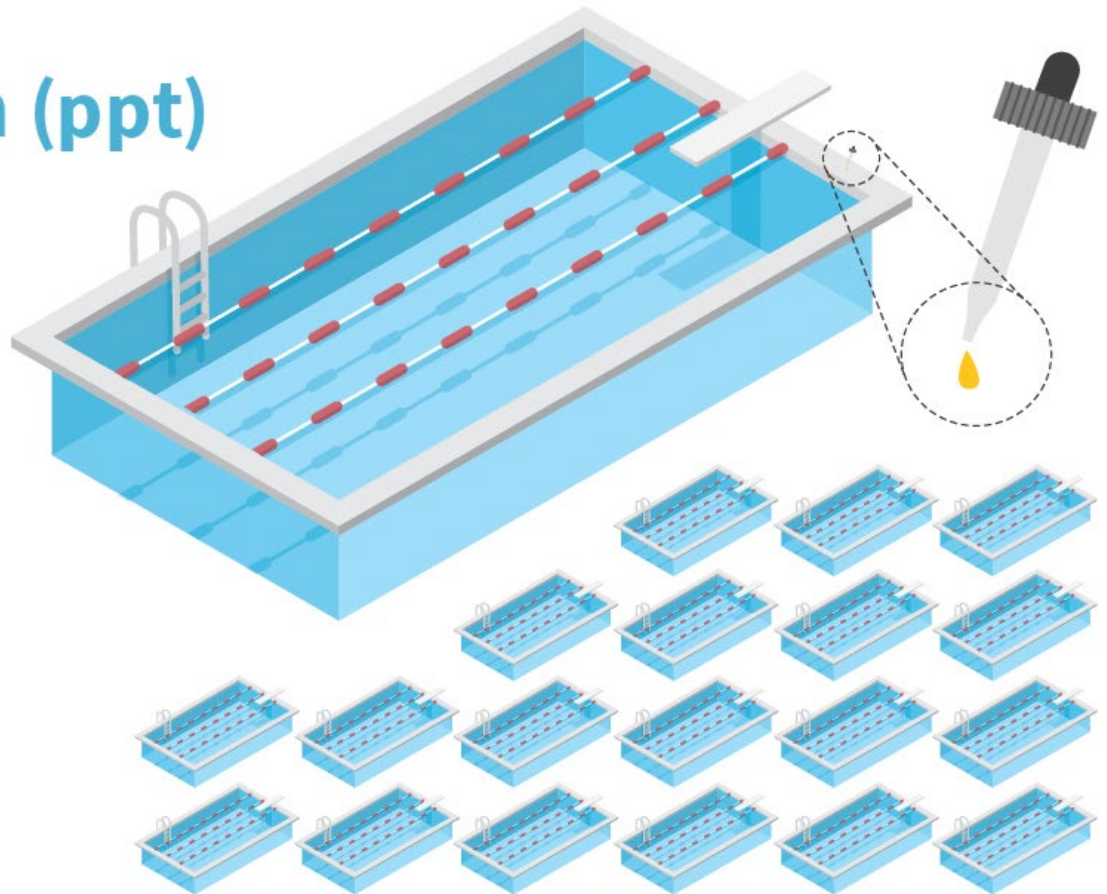


What is a part per trillion(ppt)-  $1\text{ppt} = 1\text{ ng/L}$

**1 part per trillion (ppt)**

**IS EQUIVALENT TO A  
SINGLE DROP OF  
WATER IN**

**20 olympic-sized  
swimming pools**





## MWRA's Toxic Reduction and Control (TRAC) Program

- To reduce toxic discharges at their source, TRAC administers MWRA's Industrial **Pretreatment Program** under the **Federal Clean Water Act**. TRAC regulates industrial dischargers in accordance with its Sewer Rules and Regulations (**360 CMR 10.00**) and works with industries to encourage voluntary reductions in their toxic chemical use.
- MWRA's regulations govern what can be discharged into the sewer system. The regulations must be approved by EPA, and published in the Massachusetts register. After the Secretary approves them, they become part of the "Code of Massachusetts Regulations" (CMR), which has the force of law.



## Next steps - PFAS Monitoring and Control (cont)

- Industrial Surveys to identify all industries on EPA list to sample (on going)
- Review all Local Limits for DITP Service Area and seek guidance on developing a Local Limit for PFAS (Contract to review Local Limits in place)
- Educational Outreach to Households (on-going)
- Website - PFAS pages to educate public (on-going)



## Website messaging

- On the wastewater side, MWRA is a passive receiver of PFAS
- No PFAS is added in any treatment process
- Sources of PFAS are all of us – not just industries
- Source control through elimination of products with PFAS



Stain- & water-  
resistance  
treatments



Nonstick  
cookware



Waterproof  
apparel



Cleaning  
products



Firefighting  
foam



Takeout  
containers



Carpets &  
textiles



# Electronic Annual Report

- EPA Annual report for Industrial Pretreatment Programs in EPA Region 1 will be submitted electronically
- Report covers July 1 – June 30
- Due annually on October 31

The screenshot shows the EPA Central Data Exchange (CDX) interface. At the top is the EPA logo and the text "United States Environmental Protection Agency". Below this is a navigation bar with links: Home, About, Recent Announcements, Terms and Conditions, and FAQ. The main heading is "CDX Central Data Exchange". Below the heading are several tabs: MyCDX, Inbox, My Profile, Submission History, and Payment History. The "MyCDX" tab is active. Below the tabs is a section titled "Services" with a "Manage" link. This section contains a table with the following data:

| Status | Program Service Name                      | Role                     |
|--------|-------------------------------------------|--------------------------|
|        | NETPPR: NeT - Pretreatment Program Report | <a href="#">Preparer</a> |





# Questions?

