

# Industrial PFAS Source Reduction: Collaborating with Wastewater Treatment Facilities

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Director

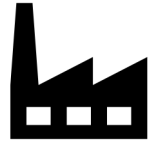
Massachusetts Office of Technical Assistance

April 5, 2022

NEWMOA Science of PFAS Conference



# MA Toxics Use Reduction Act (TURA) of 1989



## Who reports?

Massachusetts manufacturers who:

- Operate under certain Standard Industrial Classification (SIC) codes
- Have >10 employees
- Manufacture or process  $\geq 25,000$ lbs (or otherwise use  $\geq 10,000$ lbs) of listed substances

Covers a little over 400 MA facilities



## What TURA requires

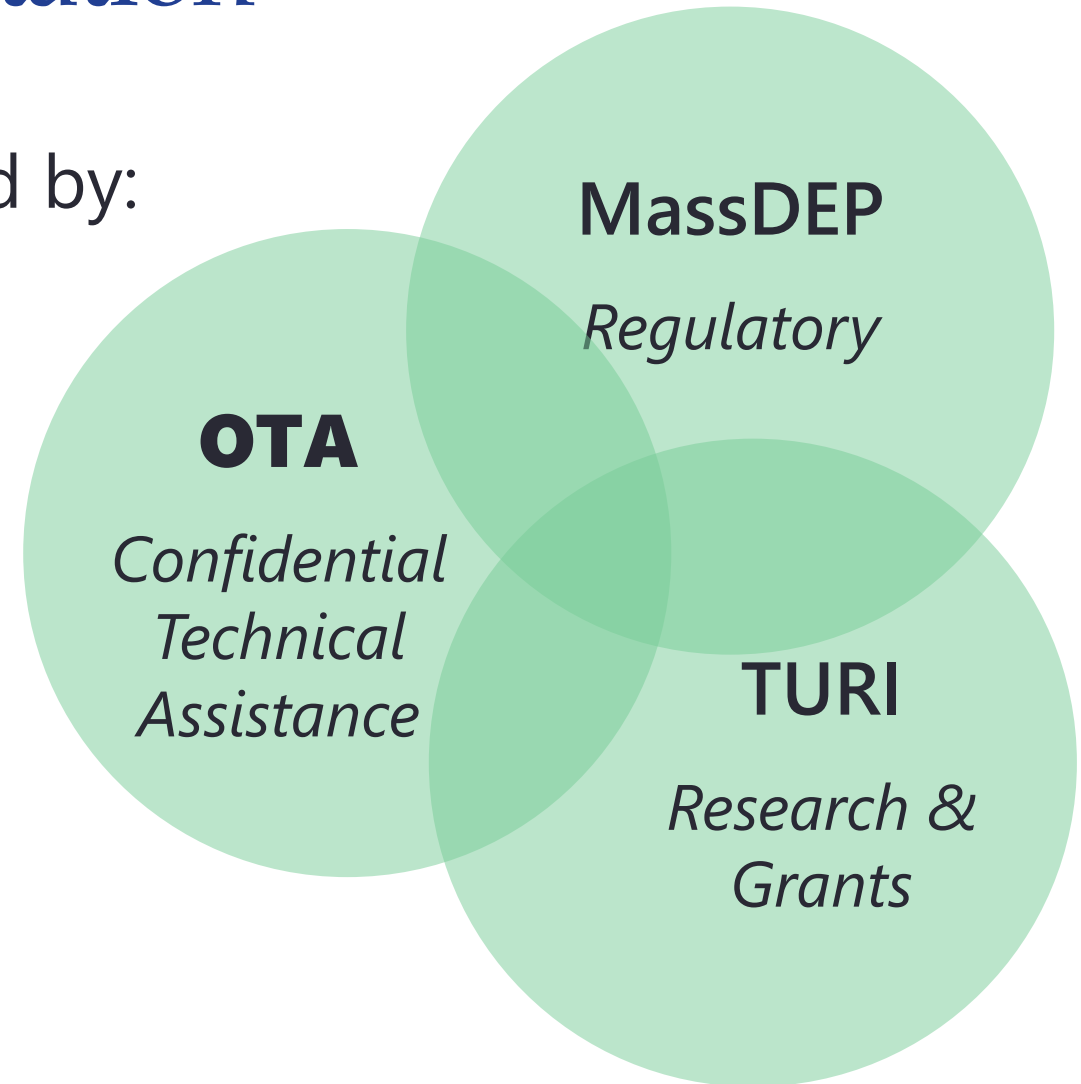
- Report to the state
- Pay a fee
- Create a Toxics Use Reduction Plan every two years

TURA does not prohibit companies from using listed chemicals.

# TURA Program Implementation

The TURA Program is co-implemented by:

- The Massachusetts Department of Environmental Protection
- The Toxics Use Reduction Institute at UMass Lowell
- The Massachusetts Office of Technical Assistance



# Office of Technical Assistance (OTA)

- **Non-regulatory** agency
- Provides **free, confidential** technical and compliance assistance to MA businesses that use toxic substances
- Gives **concrete recommendations** for toxics reduction and resource conservation

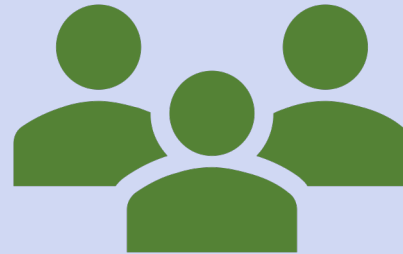
OTA has conducted 3,500 site visits at 1,500 facilities, reducing **millions of pounds** of toxic chemicals and **millions of dollars** in operating costs.

# PFAS Substances & TURA Governing Bodies



## Science Advisory Board

Managed by TURI  
Appointed by Governor  
Recommends chemicals



## Advisory Committee

Managed by OTA  
Appointed by Secretary  
Multi-sector policy input



## Administrative Council

Chaired by Secretary or designee  
TURA governing body

# Listing PFAS Under TURA: Certain PFAS NOL

Science Advisory Board  
Recommendation  
June 2020

- After a three-year review process, the Science Advisory Board recommended that PFAS NOL be added to the TURA Chemical List
- 'NOL' means all PFAS not already reportable under TURA

TURA Administrative Council Initial Vote  
August 2021

- Add the term 'Substance' to TURA definition for clarifying purposes
- Add PFAS NOL to TURA Chemical List

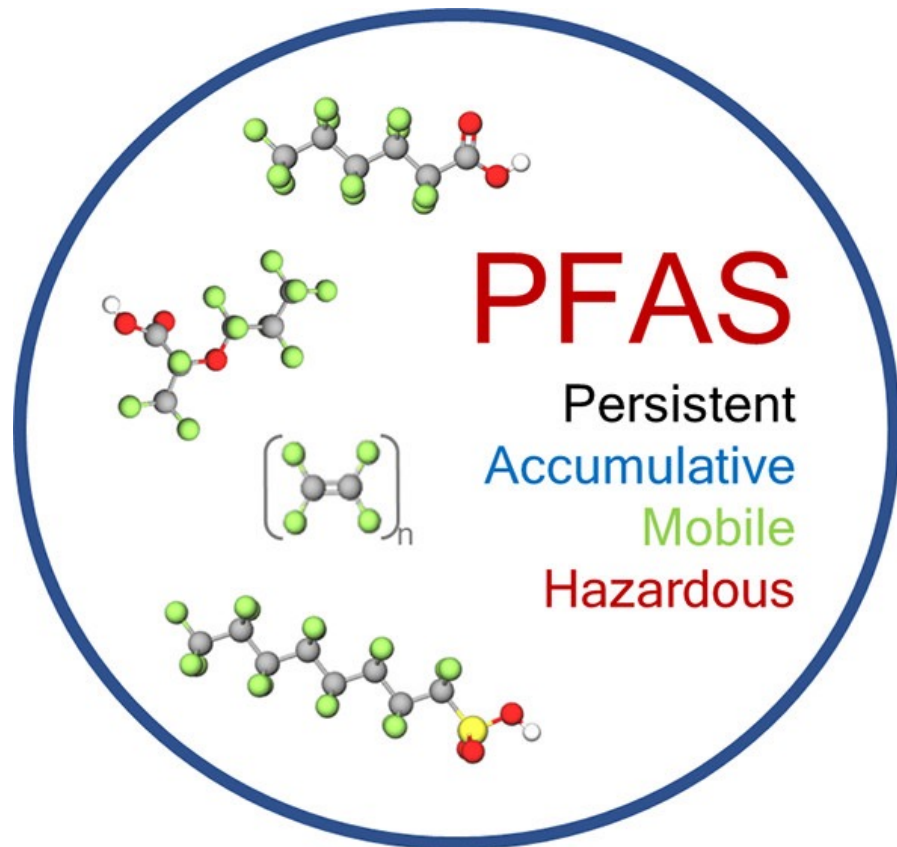
Public Comment Period  
Closed October 15, 2021

- Public comment period Sept. 24 – Oct. 15, 2021
- 100 comments submitted (87 in favor, 13 opposed)
- Draft regulation modified in response to comments to clarify intent

TURA Administrative Council Final Vote  
December 7, 2021  
Implementation January 1, 2022

- Final vote to amend 301 CMR 41 to add the term 'Substance' (41.02) and to add 'Certain PFAS Not Otherwise Listed (Certain PFAS NOL) to the TURA list of toxic or hazardous substances ((41.03)14)

# Addition of Certain PFAS Not Otherwise Listed to the TURA Toxic or Hazardous Substance List



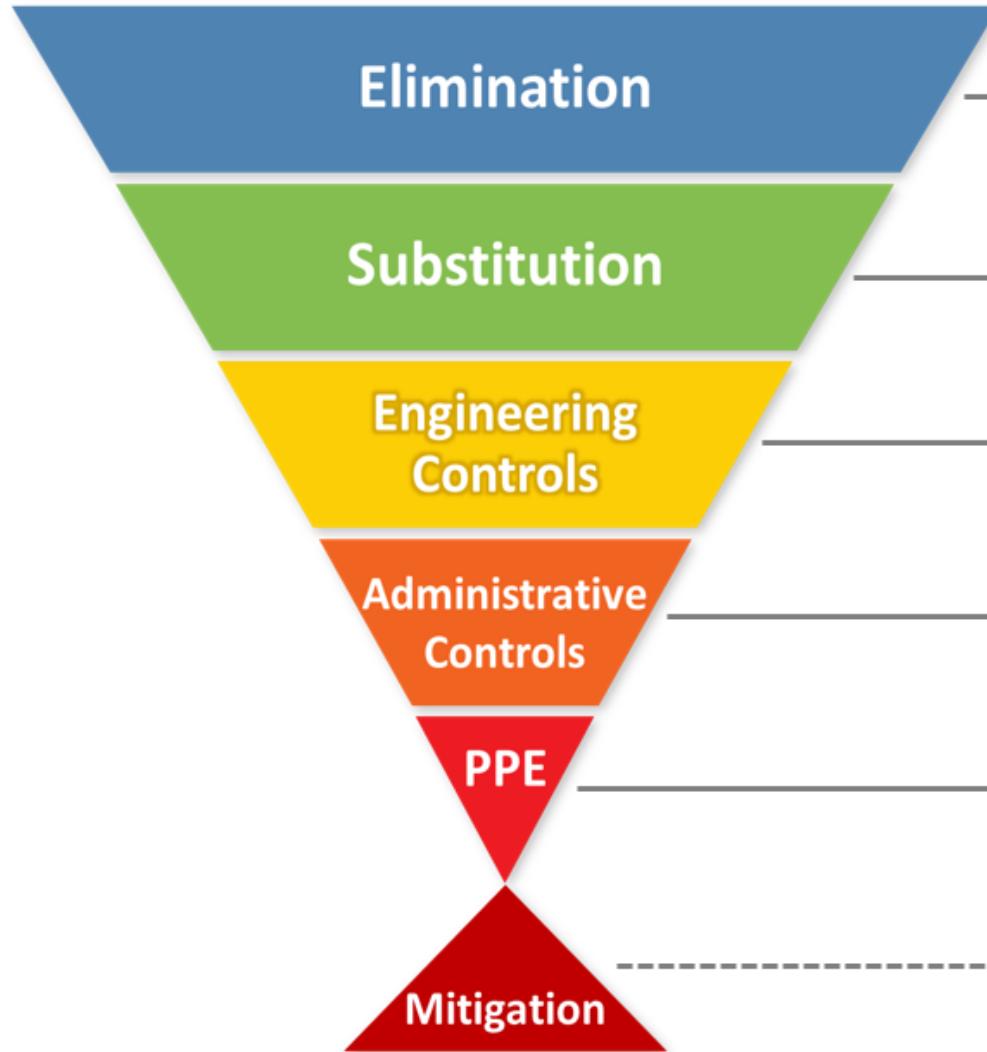
- Applies to PFAS as short as 2 fully-fluorinated carbons
- Companies track use beginning 1/1/22
- 2022 use reported by 7/1/2023

# Hierarchy of Controls

Most effective



Least effective



**Elimination**

**Physically remove the hazard**

Eliminate need for PFAS functionality (e.g., switch to trivalent Cr to eliminate need for fume suppressants, carpet fibers that are inherently stain resistant)

**Substitution**

**Replace the hazard**

Material or chemical substitution (e.g., fluorine-free fire fighting foams, safer non-fluorinated polymers and surfactants)

**Engineering Controls**

**Isolate people from the hazard**

Closed loop processing equipment and circular economy to prevent exposure, emissions and waste

**Administrative Controls**

**Change the way people work**

Treatment, emissions control and best practices in manufacturing facilities; end of life management for products

**PPE**

**Protect the worker**

Prevent worker exposure using personal protective equipment; prevent exposure to public/biota once PFAS contamination exists

**Mitigation**

**Repair the damage**

Mitigation: remediation of environment, biomonitoring, treatment of disease



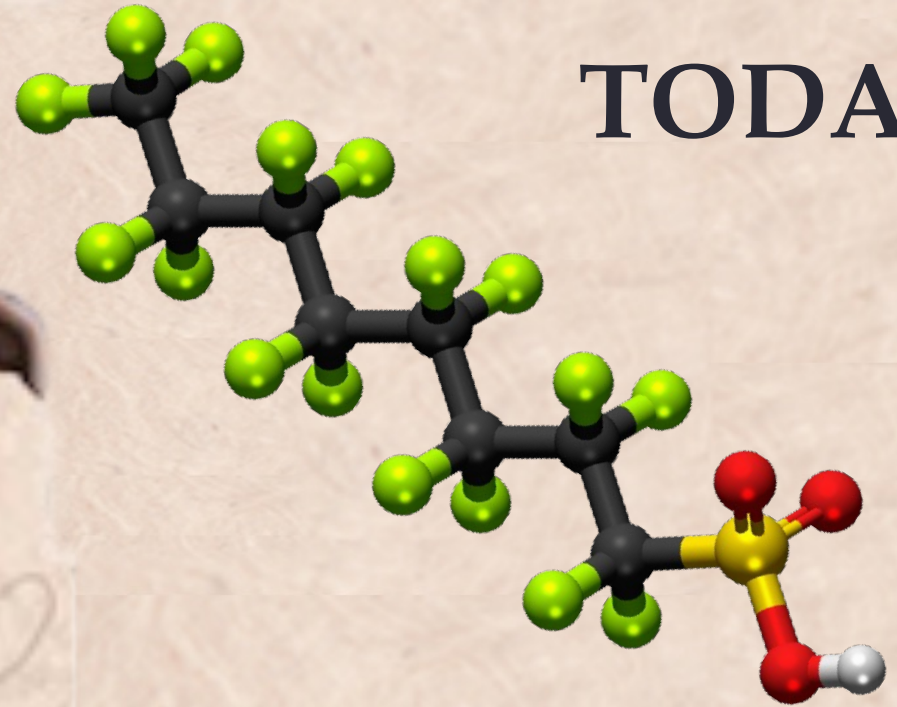
TUR



# OTA – Boots on the Ground



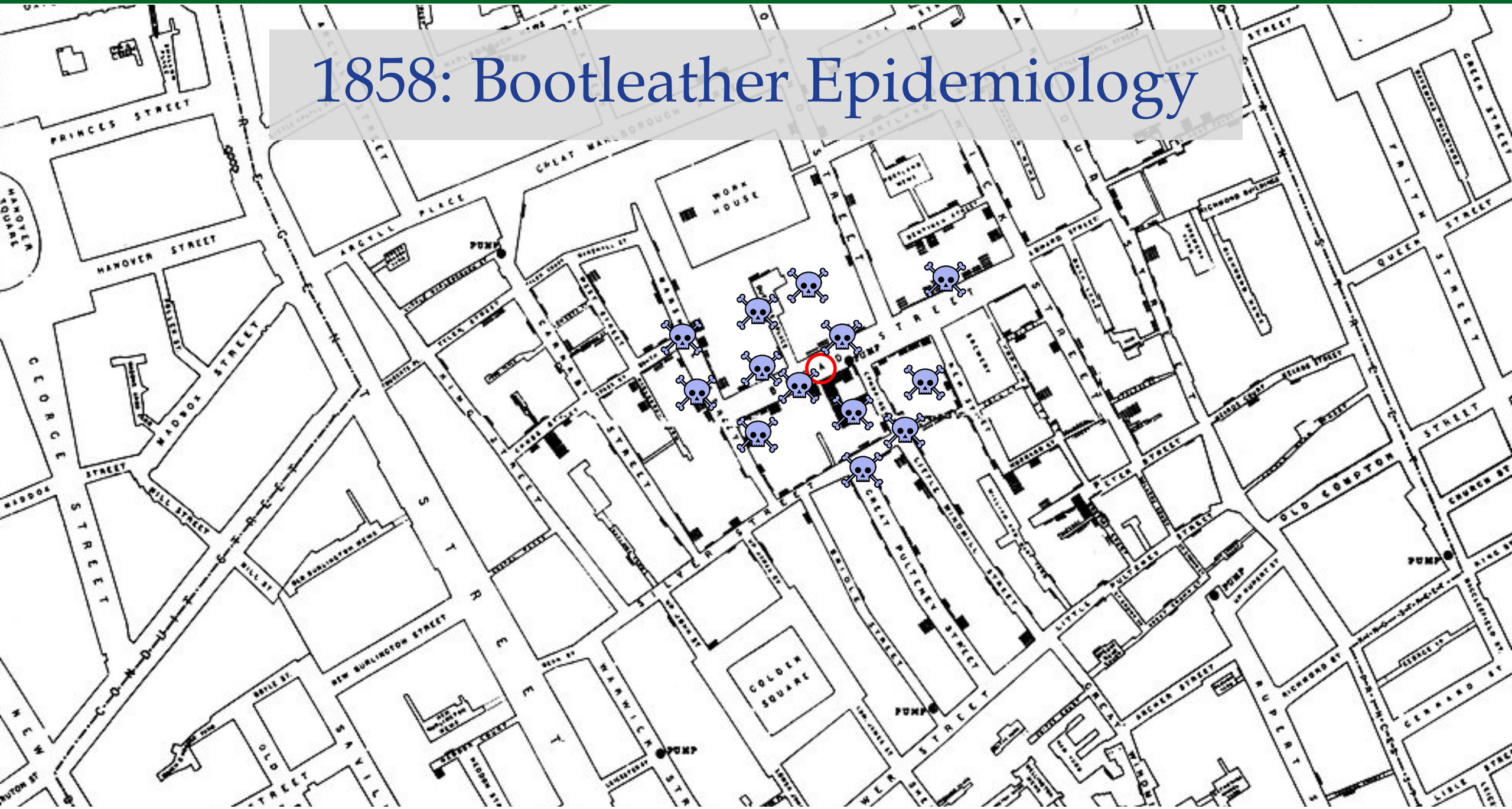
1858



TODAY

From germs to 'forever chemicals'

# 1858: Bootleather Epidemiology



# Obstacles for Companies

## Lack of company awareness

PFAS not listed on SDS  
Confidential Business Information (CBI)  
Tainted incoming feedstock

## Regrettable substitution

'Shorter-chain' is still a 'forever chemical'

## Fear of liability

Other PFAS sources = misplaced liability

## Lack of regulation

# Identifying Industries

<b>SIC Code</b>	<b>Industry</b>
2821	Plastics Materials & Synthetic Resins
3479	Metal Coating & Allied Services
3999	Manufacturing Industries
2295	Coated Fabrics, Not Rubberized
5172	Petroleum Products

<b>NAICS Code</b>	<b>Industry</b>
322220	Paper Bag & Coated & Treated Paper Manufacturing
334419	Other Electronic Component Manufacturing
33599	All Other Miscellaneous Electrical Equipment & Component Manufacturing
335929	Other Communication & Energy Wire Manufacturing

# Process for Identifying Companies



Search Online Libraries for SICCS / NAICS



Visit Company Websites

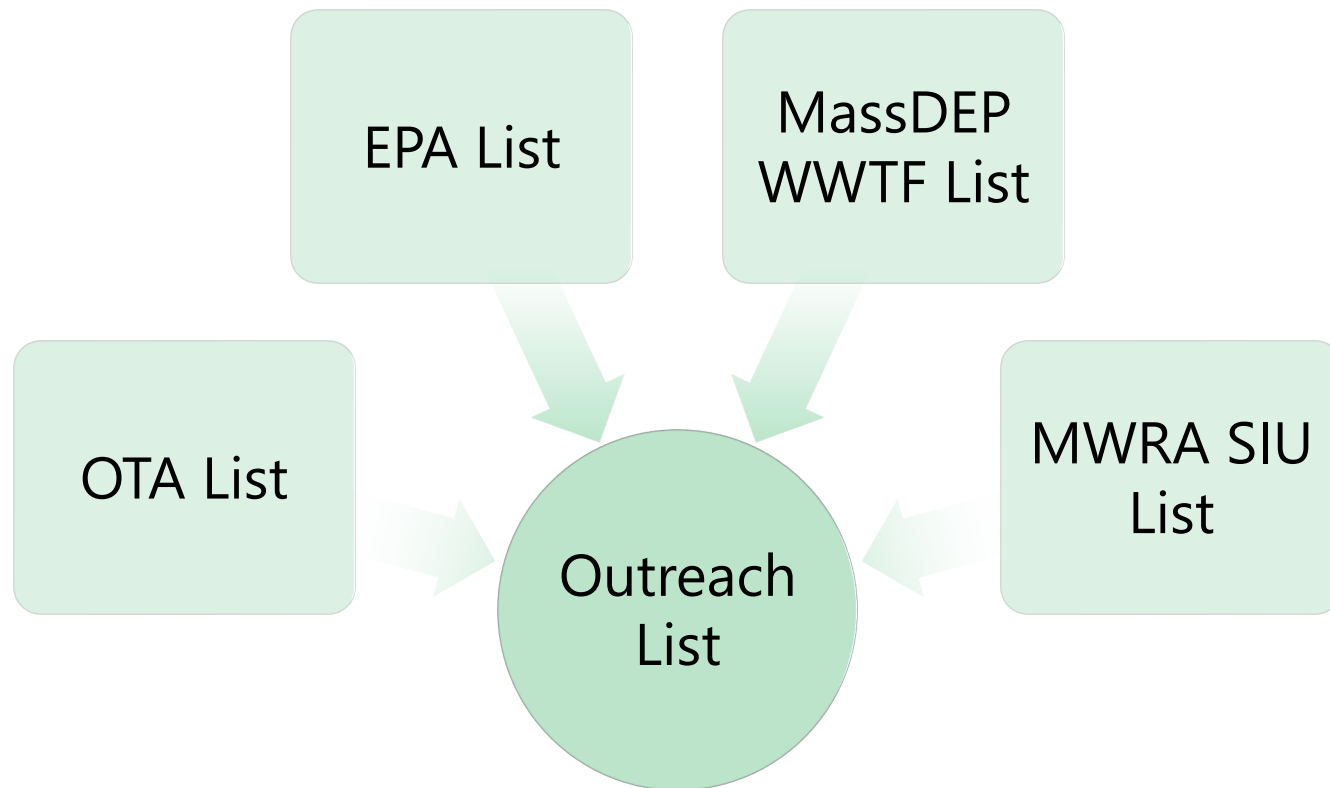


Manufactures in MA



Process Qualifies as Non-stick Coating, Waterproofing, etc.

# Partnerships



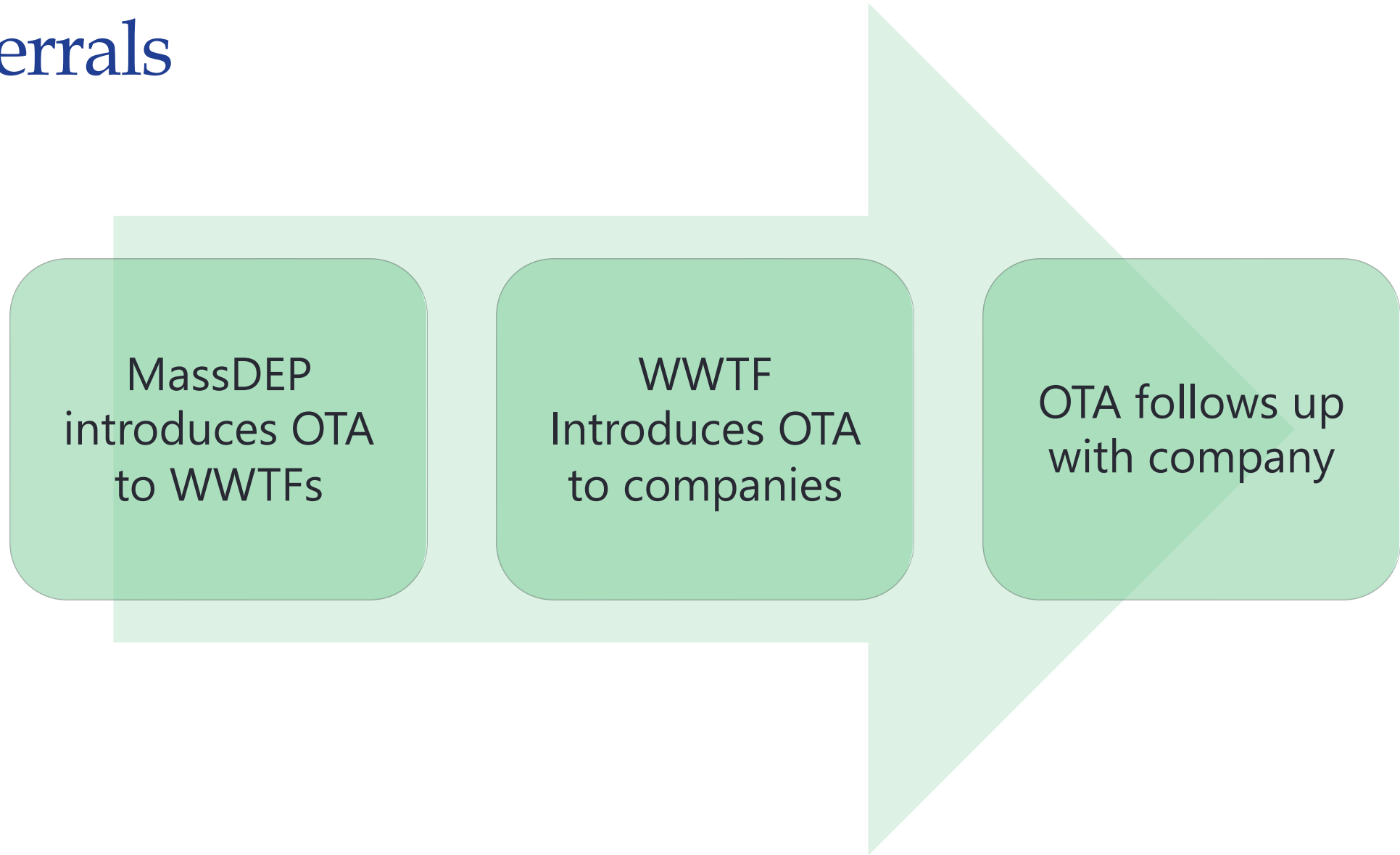
DEP, EPA identified WWTF upstream from high-priority Drinking Water Protection Areas

Agencies combined SIC/NAICS codes lists for upstream Significant Industrial Users

OTA is providing **free, confidential** technical assistance to industries upstream:

- Assistance identifying PFAS in products
- Helping companies communicate with suppliers
- Pollution prevention and toxics use reduction
- Climate change
- Resource conservation

# Referrals





# Why Referrals?

## Mistrust in government

Companies don't always believe "we're from the government and we're here to help"

## Context of interactions

OTA often offers help when there is a compliance issue

## Shifting regulatory landscape

Challenges in adapting to change

## Fear of liability

# OTA Technical Assistance

- OTA can assist facilities with:
  - Toxics use reduction
  - Environmental compliance
  - Energy efficiency
  - Resource conservation
- Both onsite and remote assistance are available
- After a site visit, OTA delivers a report with tailored recommendations

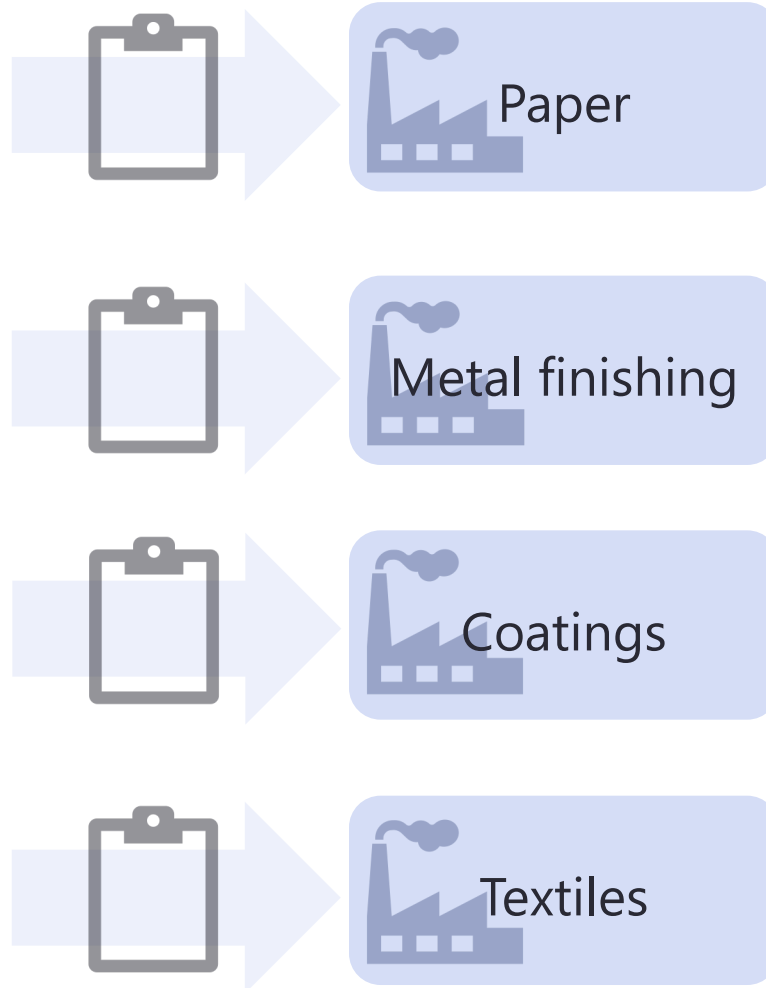


# Reporting PFAS under TURA

172 TRI/TURA PFAS	TURA Certain PFAS NOL
<ul style="list-style-type: none"><li>• <b>Tracked starting:</b> 1/1/2021</li><li>• <b>Reportable to MassDEP:</b> 1/1/2022</li><li>• <b>Reportable:</b> <u>individually</u></li><li>• <b>Reporting threshold:</b> 100 lbs. (de minimis exemption applies)</li><li>• <i>Note: TRI is still listing additional PFAS</i></li></ul>	<ul style="list-style-type: none"><li>• <b>Tracked starting:</b> 1/1/2022</li><li>• <b>Reportable to MassDEP:</b> 1/1/2023</li><li>• <b>Reportable:</b> as a <u>category</u></li><li>• <b>Reporting thresholds:</b> 25,000 lbs. (manufactured or processed); 10,000 lbs. (otherwise used)</li></ul>

# Resources for Companies: PFAS Identification

Assessments to  
identify PFAS  
sources  
*(in development)*



- OTA technical staff flag likely sources of PFAS
  - Companies may share list of CAS numbers with OTA
- OTA and TURI pursue research on products of concern
- Companies may opt to share product information with OTA to populate a list of PFAS-containing products

# Supplier Notification Letter

OTA has developed a **supplier notification letter** (template in handouts) that companies can use to request information from their suppliers about PFAS reportable under TRI and TURA.

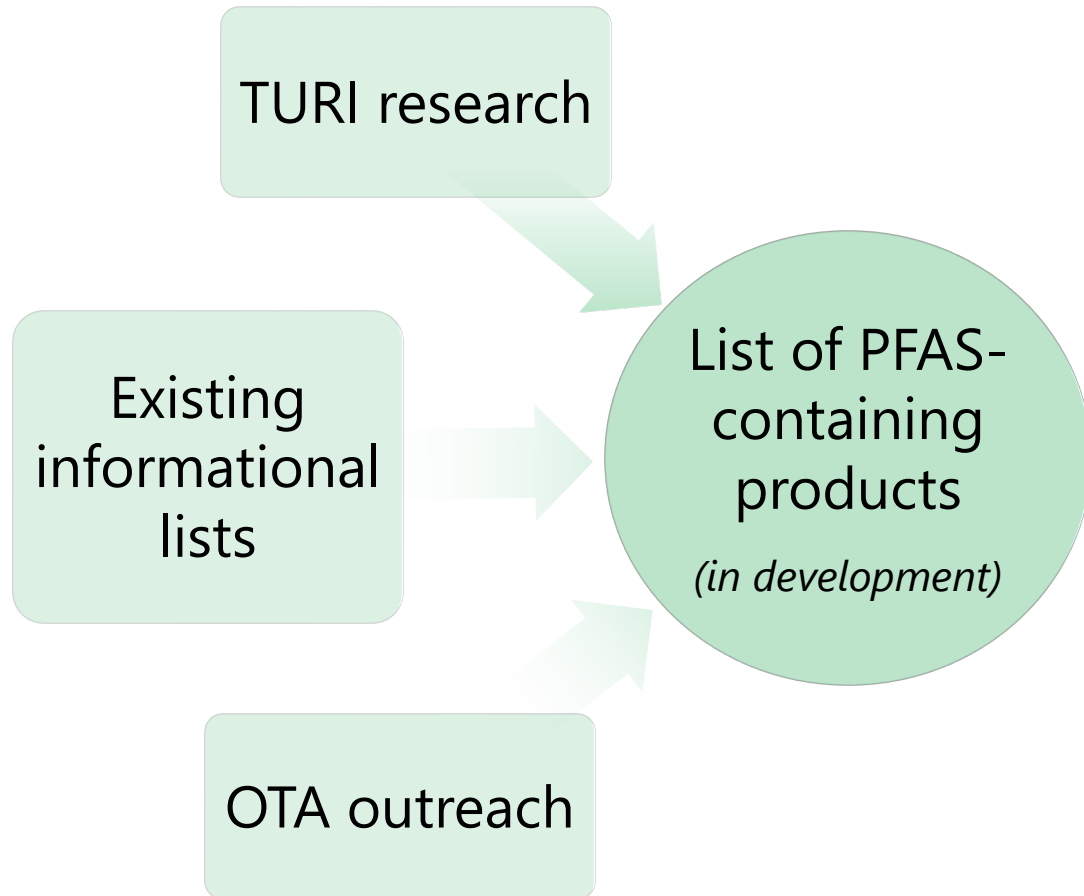
TRI  
Listed

Legal  
Obligation  
to Disclose

TURA  
Listed

No Legal  
Obligation  
to Disclose

# Resources for Companies: PFAS Product List



- Once developed, product list made available to help companies avoid PFAS-containing products
- May highlight applications where safer alternatives still need to be identified

# Preventing Chemicals from Reaching Communities

OTA's **free, confidential** services can assist and encourage businesses to incorporate toxics use reduction, thereby decreasing chemical releases, by offering the following services:

Accepting referrals to toxics users

Identifying users of PFAS, or other chemicals, within your community

Engaging with businesses within your community

An upstream effort between the TURA Program and other agencies can help reduce the amount of chemicals that reach your community.

# Contact Us

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