# PFAS: It’s only just begun…

New England Pretreatment Coordinators Workshop

Nashua, NH

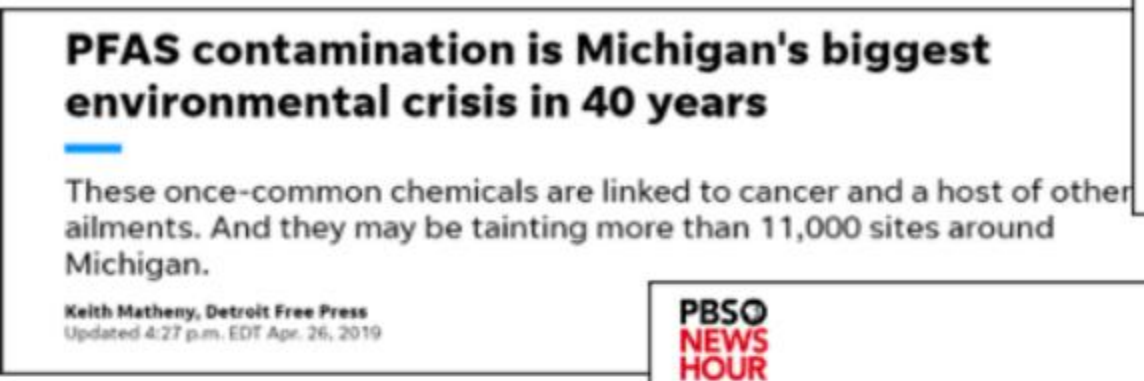
October 26, 2023

Cynthia Finley | Director, Regulatory Affairs

The National Association of Clean Water Agencies

# NACWA: A Clear Commitment to Our Nation's Waters

- National trade association for public wastewater & stormwater utilities
- Represent over 350 public utilities of all sizes from around the country
- Leader in legislative, regulatory and legal advocacy on the full spectrum of clean water issues



## PFAS contamination is Michigan's biggest environmental crisis in 40 years

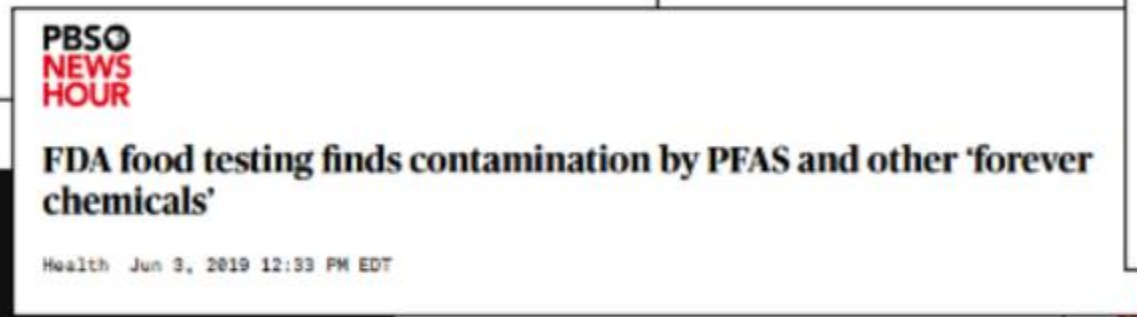
These once-common chemicals are linked to cancer and a host of other ailments. And they may be tainting more than 11,000 sites around Michigan.

Keith Matheny, Detroit Free Press
Updated 4:27 p.m. EDT Apr. 26, 2019

CHEMICALS

## States take up PFAS fight: 'Is this the next asbestos?'

Ellen M. Gilmer and Ariana Figueroa, E&E News reporters • Published: Monday, June 3, 2019



PBS NEWS HOUR

## FDA food testing finds contamination by PFAS and other 'forever chemicals'

Health Jun 3, 2019 12:33 PM EDT

The New York Times

## *E.P.A. Will Study Limits on Cancer-Linked Chemicals. Critics Say the Plan Delays Action.*

By Coral Davenport

Feb. 14, 2019

CBS NEWS NEWS SHOWS LIVE

## New study claims 43 states expose millions to dangerous chemical in drinking water

BY BRIAN PASCUS

Union of Concerned Scientists
Science for a healthy planet and safer world

[ BLOG ] UNION OF CONCERNED SCIENTISTS

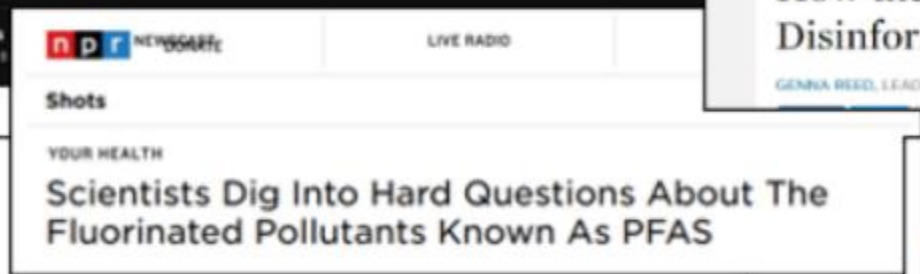
## How the Chemical Industry Deployed the Disinformation Playbook on PFAS

GENNA REED, LEAD SCIENCE AND POLICY ANALYST | MARCH 27, 2019, 2:54 PM EDT

## THEY PERSISTED

In Michigan, concerned citizens have helped reveal contamination by long-lasting nonstick chemicals

*By Sara Talpos, in Rockford, Michigan*



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Shots

YOUR HEALTH

## Scientists Dig Into Hard Questions About The Fluorinated Pollutants Known As PFAS



FOX NEWS .com

## Toxic Chemicals Contaminate Cape

By Georeen Tanner

Published January 25, 2019

## Toxic stream of 'mystery foam' near Detroit was PFAS – but from where?

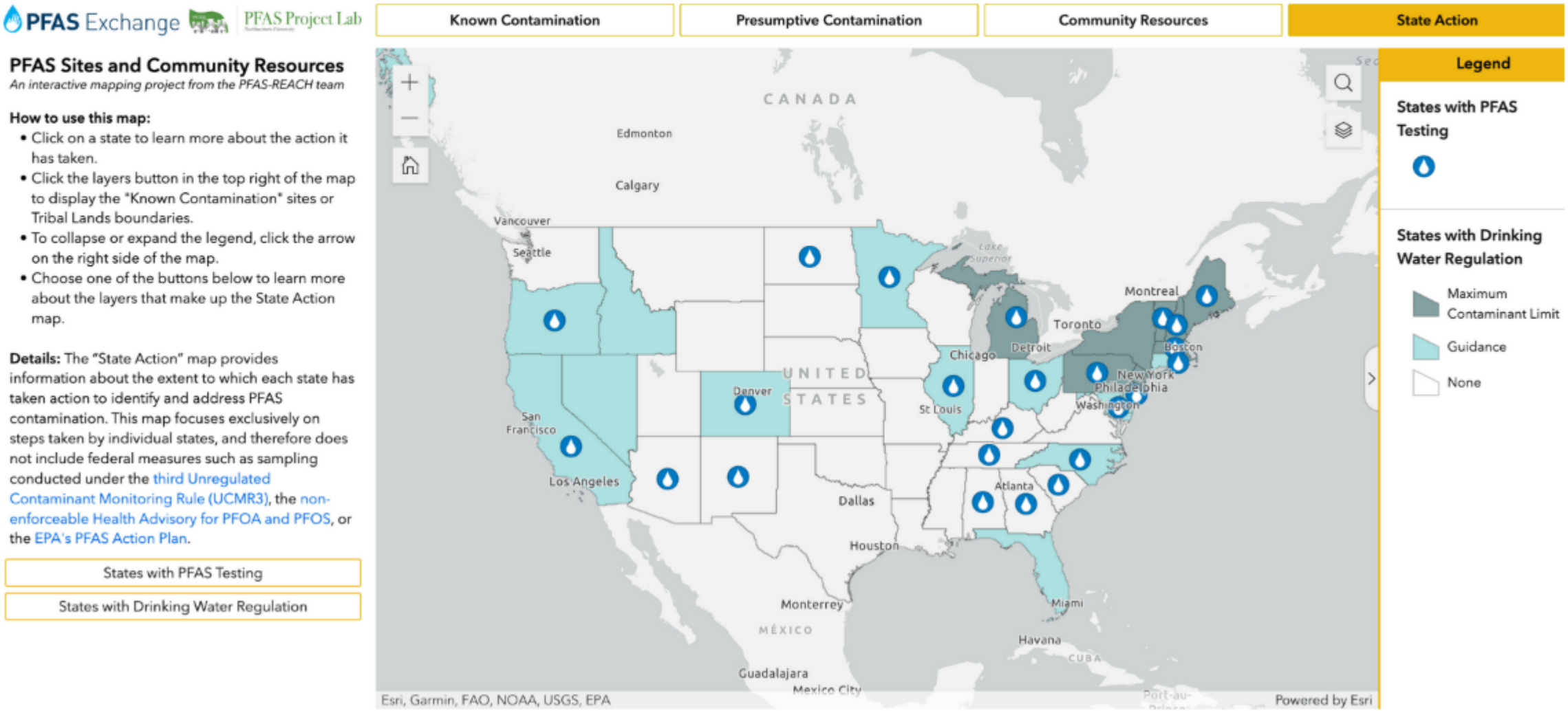
Updated May 7, 2019;
Posted May 7, 2019

MLIVE Michigar

## EPA plans to regulate cancer-causing chemicals found in America's drinking water

Ledyard King, USA TODAY Published 9:15 a.m. ET Feb. 14, 2019 | Updated 3:55 p.m. ET Feb. 14, 2019

# Dealing with a Patchwork Approach



# Dealing with a Patchwork Approach - Biosolids

Maine

- Passed bill prohibiting land application of biosolids and the sale of compost materials containing sludge and septage

Arizona

- Introduced legislation that would have severely restricted biosolids land application (not PFAS-related but would lead to biosolids management concerns)

Massachusetts

- Introduced legislation would prohibit new or modifications to existing structures that may generate PFAS air emissions (SSIs, gasification, or pyrolysis)

# Federal Movement – Drinking Water

Up Until 2022:

EPA's federal health advisory for PFOA and PFOS combined was 70 parts per trillion (ppt)

Summer of 2022:

EPA published updated and new health advisories

- PFOA – 0.004 ppt
- PFOS – 0.02 ppt
- GenX – 10 ppt
- PFBS – 2,000 ppt

# EPA Proposed Drinking Water Levels

- March 2023, EPA proposed enforceable limits for public drinking water systems
- Maximum contaminant level goal = 0 ppt

  PFOA and PFOS – 4 ppt
- Assumes 20% exposure from drinking water, 80% from other sources
- Recognizes current analytical detection limitations

Estimated that drinking water utilities will need to invest over $50 billion to install and operate treatment technology over the next 20 years

# CERCLA

Comprehensive Environmental Response, Compensation, and Liability Act (CERLA)

- Sept. 2022 – EPA proposes to designate PFOA and PFOS as “hazardous substances” under Section 102(a) of CERCLA
- April 2023 – EPA taking comment on whether to also designate as hazardous substances:
  - Seven other PFAS (PFBS, PFHxS, PFNA, HFPO-DA (GenX), PFBA, PFHxA, PFDA)
  - Precursors to PFOA, PFOS, or any of the seven proposed PFAS
  - Categories of PFAS

# But CERCLA Is a Cleanup Statute…

…Not a regulatory one, so how do you:

- Have meaningful cleanups when PFAS constantly being introduced and reintroduced into environment?
- Set cleanup standards before you know risk levels?
- Meet cleanup standards when there’s no known treatment technology?
- Deal with contaminated media?

# Polluter Pays vs. Community Pays

Two goals of CERCLA, according to Congress:

- Provide for clean-up if a hazardous substance is released into the environment
- Hold responsible parties liable for the costs of these clean-ups

However, Congress also set up CERCLA so that parties face liability

- Without regard to fault or the time of the disposal (which could be decades ago)
- Even though past practices were lawful and directed, permitted, or known by state or federal government

# CERCLA Liability

CERCLA assigns strict, retroactive, joint, and several liability to potentially responsible parties (PRPs):

- The current owner or operator of a facility from which there is a release of hazardous substance
- The former owner or operator of a facility at the time of disposal of a hazardous substance
- Any person who arranged for disposal or treatment of hazardous substances at the facility
- Any person who accepts hazardous substances for transport to a facility that the person selected

# CERCLA Disposal

CERCLA defines “disposal” broadly as:

“the discharge, deposit, injection, dumping, spilling, leaking, pouring, or placing of solid waste or hazardous waste into or onto any land or water so that such a solid or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into the waters including groundwaters”

“Release” is interpreted as “any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment”

# CERCLA Liability for POTWs

- POTWs receive PFAS from industrial users, domestic sources, and stormwater
- POTWs not designed to treat PFAS, so PFAS are present in biosolids and effluent
- POTWs did not need to know they were “disposing” of PFAS to be held liable
- Even if a POTW is only responsible for a fraction of PFAS contamination, it can be liable for cleaning up an entire site, particularly if other PRPs cannot be identified

# Examples of POTWs Facing CERCLA Liability

- Passaic Valley, NJ cleanup of dioxins
  - OxyChem has brought multiple downstream POTWs into its own CERCLA lawsuit to make them pay for part of cleanup
  - EPA has tried to limit POTW responsibility, but utilities have spent hundreds of thousands of dollars on litigation costs alone
- Fox River, WI cleanup of PCBs
  - Local utilities implicated in contamination; proving *de minimis* contribution has significant costs

# Two Possible "Outs" for POTWs

"Normal application of fertilizer"

- In preamble to biosolids regulations (40 CFR Part 503), EPA exempted the application of biosolids to farm fields from being considered a "release" under CERCLA
- However, this is not a regulation and several courts have disagreed

"Federally permitted releases"

- Only applies if permittee is in compliance with specific limits on the hazardous substance in the permits, or the hazardous substance was identified in the permit application process and discharge occurred within scope of operating or treatment systems

# CERCLA Liability for Domestic Sources

Manufacturers could escape liability for domestic sources

- *Burlington Northern and Santa Fe Ry. Co. v. U.S.* (2009), U.S. Supreme Court held that if a company makes a “useful product” but is not engaged in its ultimate “disposal,” the company is not responsible for CERCLA cleanups

# Trust Us…

EPA has stated that it intends to use enforcement discretion to exclude passive receivers, such as POTWs, from CERCLA liability

- Including biosolids land application, public drinking water systems, public solid waste facilities, and municipal airports

POTWs can still be brought in as PRPs by third parties

- Over 650 lawsuits to bring municipalities into CERCLA liability

# NACWA's Requests for EPA

- Utilize the Agency's authority under the Toxic Substances Control Act (TSCA) to focus on source control
- Undertake a comprehensive accounting of the potential costs of the CERCLA proposal, including cleanup costs
- Advance understanding of the risks from PFAS to human health and the environment to inform standard setting under the Clean Water Act
- Develop PFAS strategies that do not place POTWs in untenable positions for managing and treating wastewater, stormwater, and biosolids

# NACWA's Requests for EPA (cont.)

- Promulgate a regulation stating that land application of municipal biosolids constitutes the "normal application of fertilizer" and is therefore not a "release" subject to CERCLA liability
- Modify regulations to ensure that CERCLA's "federally permitted release" exemption applies to discharges from POTWs
- Invest in advancing PFAS destruction technologies, particularly at scale for wastewater matrices

# Federal Legislation

- CERCLA
  - Water sector working for PFAS exemption for public wastewater, stormwater, and drinking water utilities
  - Developing true “polluter pays” model

- Clean Water Standards for PFAS Act
  - Instructs EPA to develop PFAS human health water quality criteria, ELGs, and pretreatment standards for priority industries – essentially would hold EPA accountable for steps in its PFAS Action Plan and ELG Plans
  - Introduced last Congress by Rep. Pappas (D-NH) and Sen. Gillibrand (D-NY), who want to reintroduce soon

# What Are the Costs?

Minnesota Report, June 2023

- Removing and destroying PFAS from water and biosolids leaving Minnesota's wastewater treatment facilities could cost between $14 billion and $28 billion over 20 years
- PFAS can be bought for $50 - $1,000 per pound (according to MPCA estimates), but costs between $2.7 million and $18 million per pound to remove and destroy from municipal wastewater, depending on facility size
- Small wastewater treatment facilities would face per-pound costs over six times greater than large facilities, due to economies of scale
- New "short-chain" types of PFAS are more difficult and up to 70% more expensive to remove and destroy compared to old "long-chain" PFAS

# EPA's Proposed POTW Influent Study

ELG Plan 15 – Proposed study of PFAS in POTW influent, effluent, and biosolids

- Sampling at 400 largest wastewater treatment facilities
- Goals include:
  - Identifying categories of IUs discharging PFAS
  - Collecting data on domestic sources
  - Understanding pass through of PFAS to effluent and biosolids
- Sampling compelled through Clean Water Act Section 308
- Concurrent biosolids sampling
- POTW would pay for laboratory analyses

# EPA POTW Influent Study

- Wastewater samples – EPA Draft Methods 1633 and 1621, and field QC samples for:
  - Up to 10 IU sample points
  - One domestic sample point
  - One POTW influent sample
  - One POTW effluent sample
- Biosolids
  - EPA Draft Method 1633
  - Standard Method 2540
  - EPA Methods 9056A, 6010, and 440

# Biosolids Risk Assessment

- Science Advisory Board (SAB) currently reviewing 3-step process EPA proposed to assess risk of over 700 chemicals (not just PFAS) in biosolids
  1. Prioritize risk assessment of chemical pollutants in biosolids
  2. Screening level risk assessment
  3. More refined risk assessment for chemicals that pose greatest risks
- EPA separately developing risk assessments for PFOA and PFOS (end of 2024)
  - If risk found, will develop limits and compliance requirements via Part 503 regulations

# Michigan Pretreatment Program Initiative

Table 1. Identified Industrially Impacted Solids: 2017 to 2021 PFOS Results

| WWTP | IPP | Significant Sources | 2017/2018 Biosolids PFOS (µg/kg) | 2021 Biosolids PFOS (µg/kg) | PFOS Reduction Since IPP Initiative |
|---|---|---|---|---|---|
| WWTP #50 | Yes | Yes | 983 | 140 | 85.8% |
| WWTP #14 | Yes | Yes | 1060 | 120 | 88.7% |
| WWTP #57 | Yes | Yes | 1680 | 33 | 98.0% |
| WWTP #54 | Yes | Yes | 161 | 74/180 | 54%/-11% |
| WWTP #92 | Yes | Yes | 2150 | 113 | 94.7% |
| WWTP #69 | Yes | Yes | 160 | NS | N/A |

# Domestic Sources – California Study

## Initial Findings – Data Overview

- POTW results are qualitatively and quantitatively similar to other regions
- ~81% of POTWs had >90% residential/commercial loading
- Distinct residential/commercial vs. industrial-influenced profiles
- Industrial-influenced profile is sewershed-specific
  - Short-chain PFAS more common than long-chain PFAS
  - Long-chain PFAS continue to be found in wastewater
    - PFOS production have been phased out in US but may still be present in some consumer products

| | All WWTPs | | 100% Domestic WWTPs | |
|---|---|---|---|---|
| **Sample** | **Inf** | **Eff** | **Inf** | **Eff** |
| **Range (ng/L)*** | 15-1,726 | 23-983 | 15-400 | 48-761 |
| **Median (ng/L)*** | 113 | 135 | 100 | 145 |
| *Set nondetects to the smaller of half of the MDL and half of the chemical's required RL | | | | |

# Toxic Release Inventory (TRI)

- Requires facilities to report releases of 189 PFAS compounds
- Pre-Publication Final Rule (October 20) designates PFAS as “chemicals of special concern”
  - Removes *de minimis* exemption for facilities to report PFAS releases
  - Removes *de minimis* exemption for suppliers to notify facilities of chemicals of special concern, which include PFAS, lead, mercury, and dioxins
  - Rule will be effective January 1, 2024

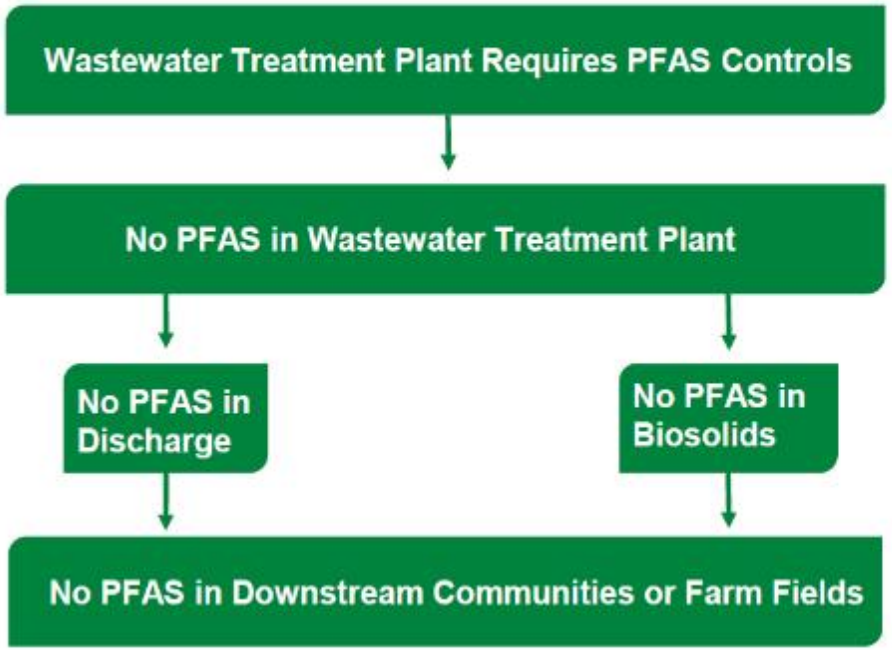
# Environmentalists Perception

From Southern Environmental Law Center presentation, May 2023:

## Avoid CERCLA Liability by Preventing Pollution

- Potential CERCLA liability encourages responsible behavior.
- Industries and wastewater treatment plants have the legal authority and responsibility to prevent PFAS pollution.
- Enforcement discretion exists to protect unknowing contributors to past pollution.

## Pretreatment Can Prevent PFAS Pollution



# Flushable Wipes – Federal Legislation

- **Wastewater Infrastructure Pollution Prevention and Environmental Safety (WIPPES) Act**
  - Sets federal "Do Not Flush" labeling standards for non-flushable wipes and provides a consistent national labeling landscape. Closely modeled after state laws passed on the west coast and would preempt state wipes labeling laws.
  - Introduced last Congress on a bipartisan, bicameral basis (Sens. Merkley (D-OR) & Collins (R-ME); Reps. Lowenthal (D-CA) & McClain (R-MI).
  - Anticipating reintroduction April 2023.
  - Supported by NACWA, WEF, CASA, and the Association of the Nonwoven Fabrics Industry (INDA)

visit www.nacwa.org/toilets

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# 2024 NACWA Pretreatment Workshop + Training

# Thank you

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**The National Association of Clean Water Agencies**

July 26, 2023| Denton, TX

NACWA