

PFAS Regulatory Update

Past, Present, Future

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Agenda

- **What are PFAS?**
 - Description of Chemical(s)
 - Past History of Major Uses/Sources
- **Regulatory History**
 - Past
 - Present
 - Future
- **PFAS in Arkansas**
- **Closing and Q&A**



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What are Per- and Polyfluoroalkyl Substances (PFAS)?

A Brief Background



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PFAS Background

- Large family of thousands of chemicals that vary widely in their chemical and physical properties, as well as their potential risks to human health and the environment
- Synthetic fluorinated organic compounds, comprised of carbon and fluorine atoms
 - Considered some of the strongest bonds in nature – resistant to heat, oil, and water (surfactant)

PFAS Background

- PFAS have been produced and used in several industries (public, private, and defense sectors) since the 1940s
- Due to their physical/chemical properties, PFAS have been included in a wide range of consumer products such as: food packaging, clothing, carpets, common household and outdoor equipment. Additionally, they are uniquely efficient at extinguishing fires

PFAS Background

- Some main sources include:
 - Any area where fluorine-containing firefighting foams are stored, used, or released such as fire training areas, airport hangers, and aircraft/vehicle crash sites;
 - Facilities that produce or use PFAS or PFAS-containing products such as metal and textile plating and coating facilities;
 - Waste management and disposal areas including landfills, incinerators, recycling facilities, composts, land applied biosolids, OB/OD facilities; and
 - Water and sewage treatment systems and receiving bodies

PFAS Background

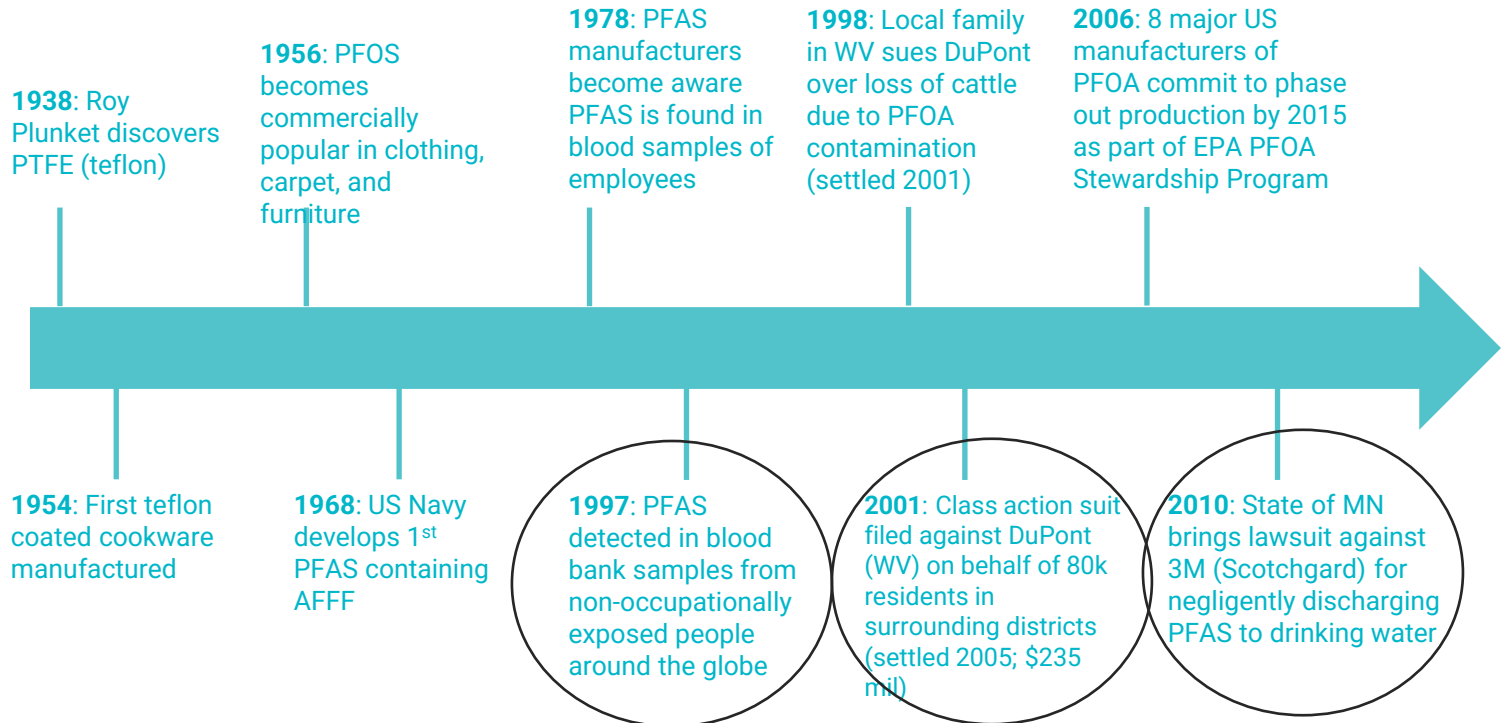
- Fate and Transport
 - PFOS/PFOA are stable in the environment and resistant to hydrolysis, photolysis, volatilization, and biodegradation
 - Bio-accumulate and bio-magnify in wildlife
 - Biologically and chemically stable in the environment and tend to resist environmental degradation processes
 - As such, they are widely distributed and are found in soil, sediment, groundwater, air and tissue
 - No biodegradation or abiotic degradation processes have been found

Regulatory History



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Regulatory History – Past (1940-2010)



Regulatory History – Past (2010-2018)

2013: Following 2005 DuPont (WV) settlement, C8 Science Panel determines probable link b/t PFOA exposure and several health risks

2015: UCMR3 sampling conducted; 6 PFAS constituents sampled in PWS of >10,000 residents

2016: EPA announces drinking water Lifetime HA for PFOS+PFOA of 70 ppt

2017: Saint Gobain facility (NY) becomes 1st facility added to NPL for PFAS contamination (NY state is Lead agency)

2018: EPA National PFAS Leadership Summit and Engagement

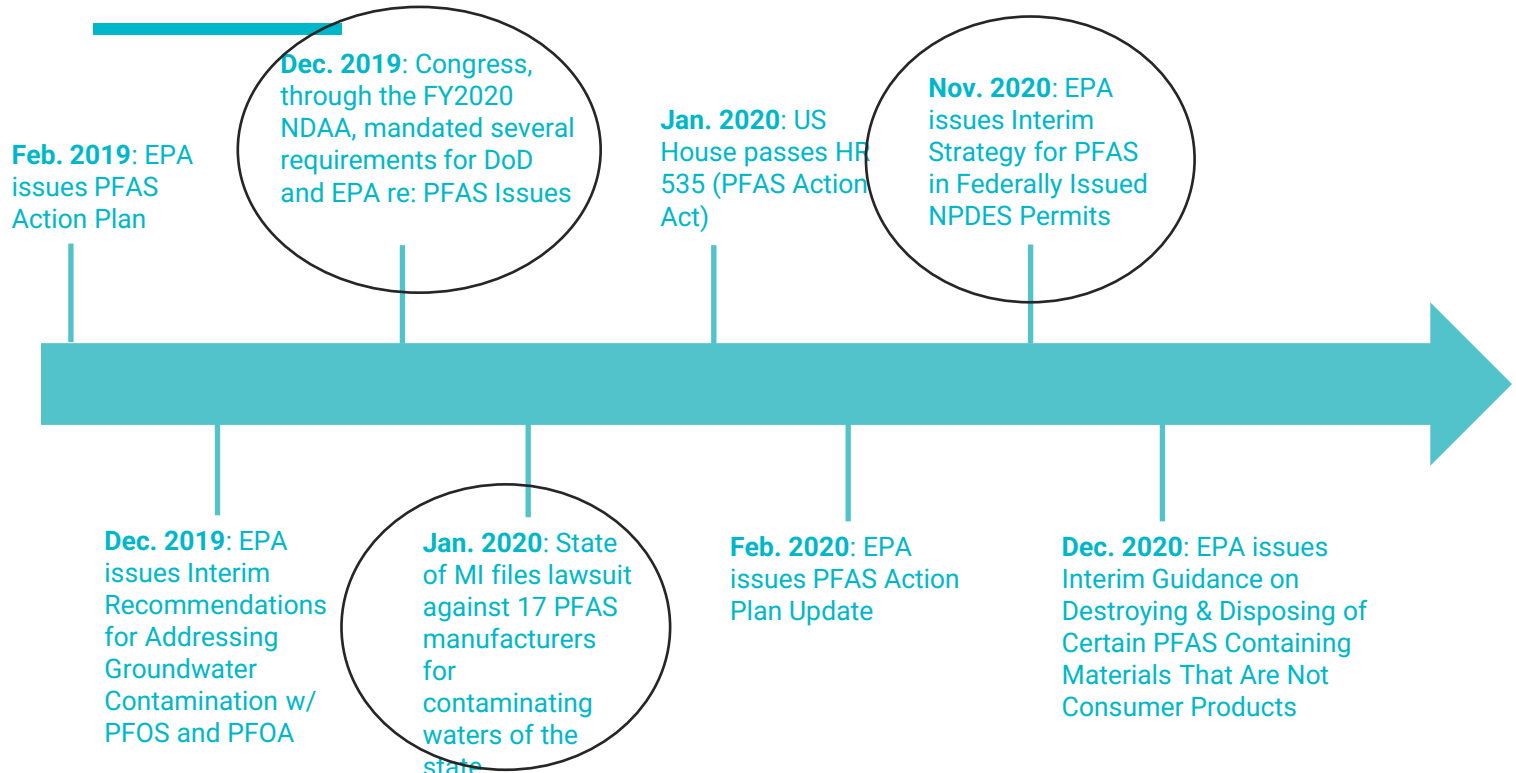
2015: EPA PFOA Stewardship Program phase-out completed

2015: 3500 pending lawsuits against DuPont (WV)

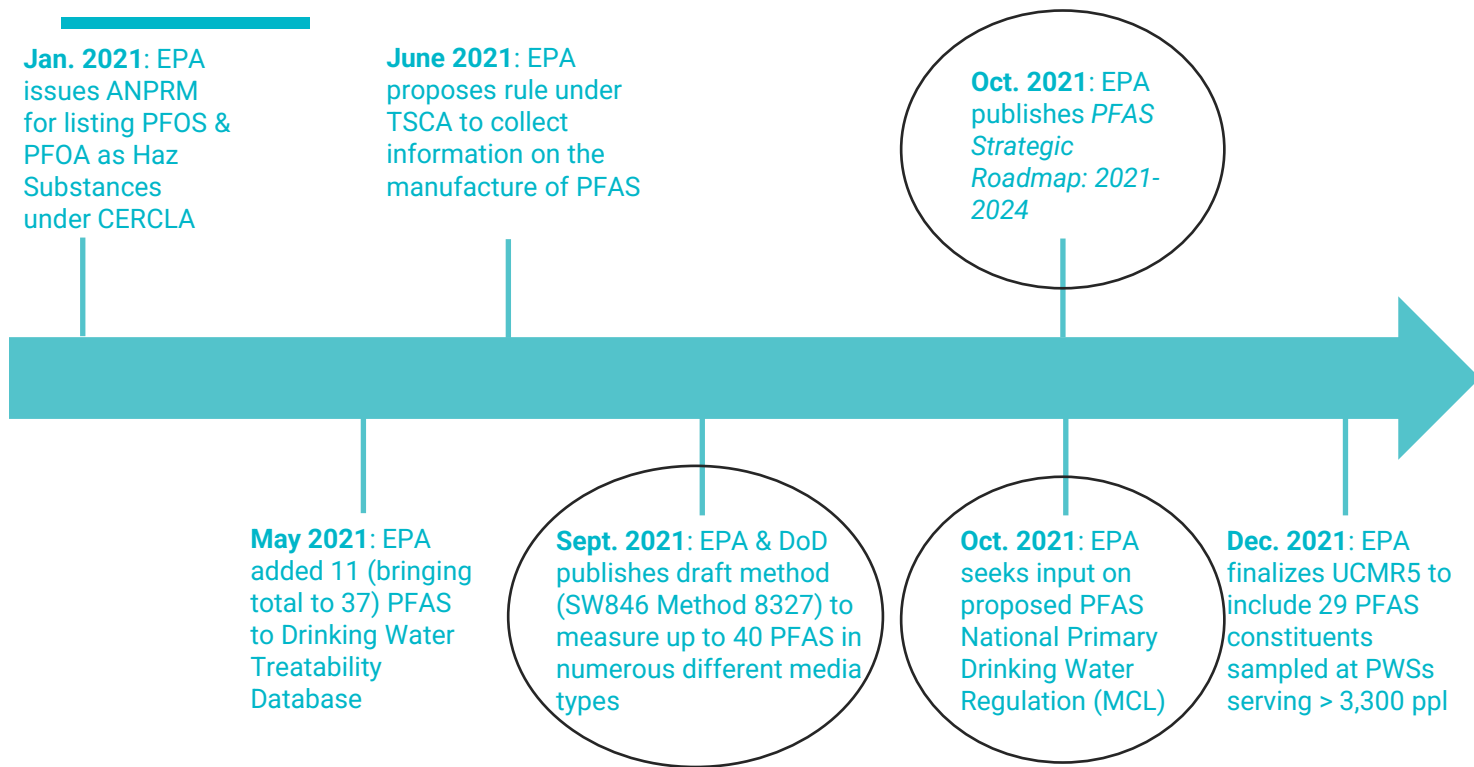
2017: DuPont (WV) settles over 3500 lawsuits for \$671 mil

2018: \$850 mil awarded to state of MN in 3M (Scotchgard) lawsuit

Regulatory History – Present (2019-2020)



Regulatory History – Present (2021)



PFAS Roadmap

- Goals & Objectives: Research, Restrict, Remediate
- Cross-program and inter-agency approach
- Office of Water:
 - Nationwide Monitoring via UCMR sampling under SDWA (*Sampling and Reporting between 2023-2025*)
 - Establish National Primary Drinking Water Regulations (i.e. MCLs) under SDWA (*Final Rule Expected Fall 2023*)
 - Leverage NPDES permitting to reduce discharges to waterways (*Winter 2022*)
 - Publish multi-laboratory validated analytical methods for groundwater, surface water, waste water, and biosolids (*Expected Fall 2022*)
 - Publish ambient water quality criteria (*Expected Winter 2022 & Fall 2024*)
 - Finalize list of PFAS for use in fish advisory programs (*Expected Spring 2023*)
 - Finalize risk assessments for PFOA/PFOS in biosolids (*Expected Winter 2024*)
- Office of Land and Emergency Management:
 - Designate PFOS/PFOA as Hazardous Substances under CERCLA (*Final rule expected Summer 2023*)
 - Although not in Roadmap designation as a RCRA “hazardous waste” and/or “hazardous constituent” being discussed
 - Issue updated guidance on destroying and disposing of certain PFAS and PFAS-containing materials (*Expected by Fall 2023*)

Regulatory History – Present (2022)

Jan. 2022: EPA adds 4 PFAS to Toxic Release Inventory (TRI)

June 2022: EPA announces new Drinking Water Health Advisories for 4 PFAS constituents (PFOS/PFOA = Interim HAs; PFBS/Gen-X = Final HAs)

May 2022: EPA adds 5 (bringing total to 6) PFAS constituents to list of RSLs & RMLs

Aug. 2022: EPA proposes designating PFOS & PFOA as Hazardous Substances under CERCLA

Common State Issues

- No established federal framework for regulating PFAS nationwide and no enforceable federal standards for these chemicals
 - Without these frameworks and standards it is unclear how responsible parties will be compelled to manage wastes containing PFAS chemicals and remediate contamination caused by these chemicals in a timely and complete fashion
 - This has caused some states to pursue development of their own standards, which can vary, sometimes greatly, from the Federal LHAs
 - Hampered recognition of state promulgated standards and ARARs in federal programs due to lack of inclusion in CERCLA and RCRA
 - Limited states' cost recovery abilities for responsible parties
- Lack of validated analytical methods for media other than drinking water (need validated methods for groundwater, surface water, waste water, bio-solids, soil, sediment, and fish tissue)

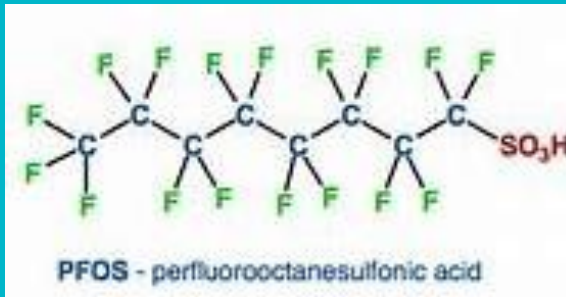
PFAS in Arkansas



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Arkansas Sites and Updates

- Same issues as most states – without regulatory framework and federal standards, Arkansas is not currently regulating PFAS chemicals
- No sites detected above 40 ppt threshold during UCMR3 sampling
- Currently three sites in the state with known PFAS contamination
 - Arkansas Air National Guard Base in Ft. Smith, AR
 - Eaker Air Force Base (BRAC site) in Blytheville, AR
 - Little Rock Air Force Base in Jacksonville, AR
 - Expanded SI found contamination off-base. Interim measures include distribution of bottled water by Air Force to affected residents.
- Two hazardous waste disposal facilities incinerate PFAS chemicals
- March 10, 2021 HB 1351 is now Act 315 – Concerning the use of PFAS chemicals in firefighting foam
 - AFFF only allowed during emergency situations
 - Cannot be used during fire training exercises
- E&E created an inter-agency PFAS task force to allow for collaboration and information sharing across varying State Agencies so Arkansas will be prepared to appropriately and effectively address issues posed by any subsequent regulations related to PFAS



Questions?



KEEP IN TOUCH



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