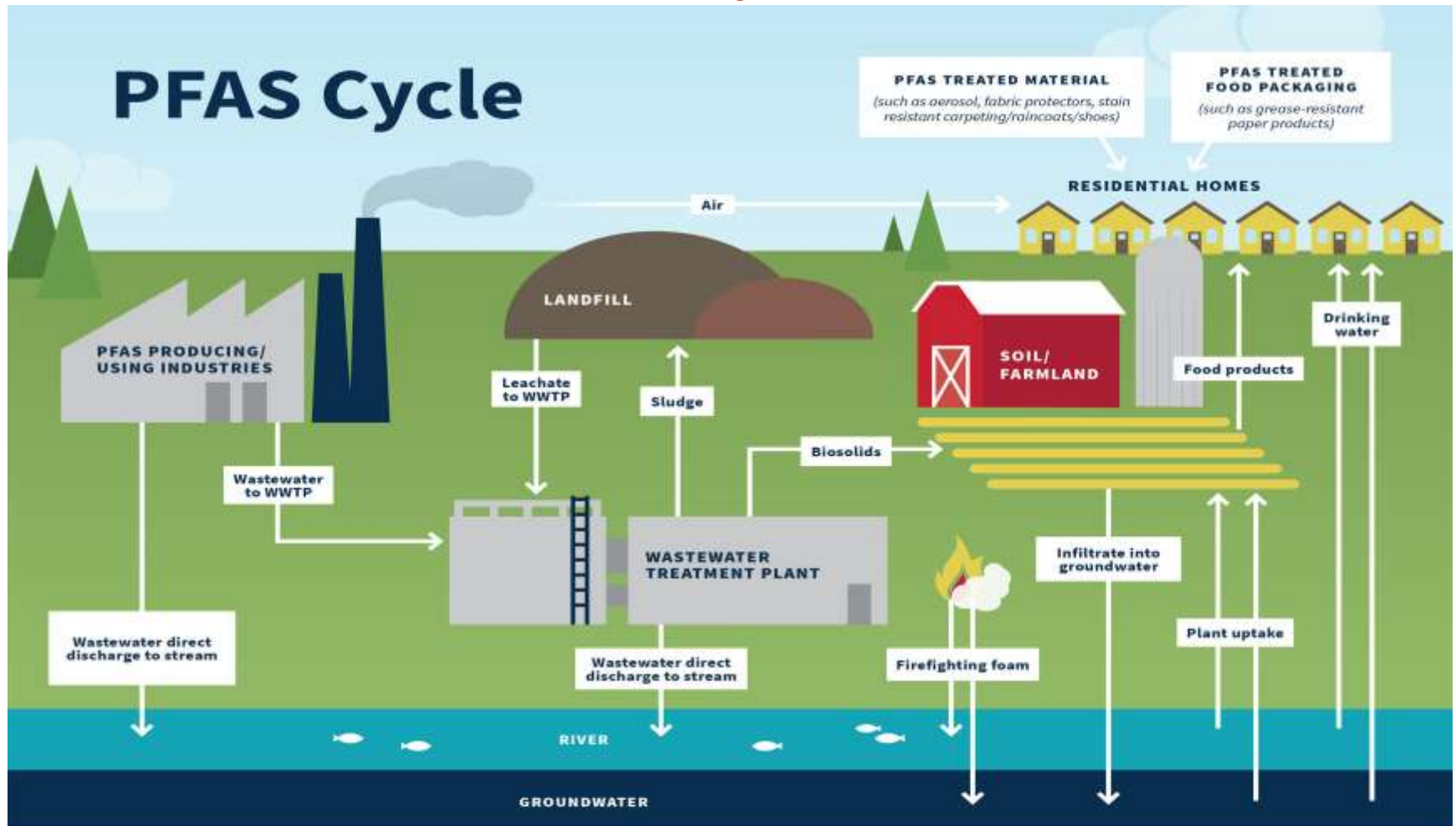


# PFAS where Suspected, Discovered or Disclosed: What Lawyers Should Know.



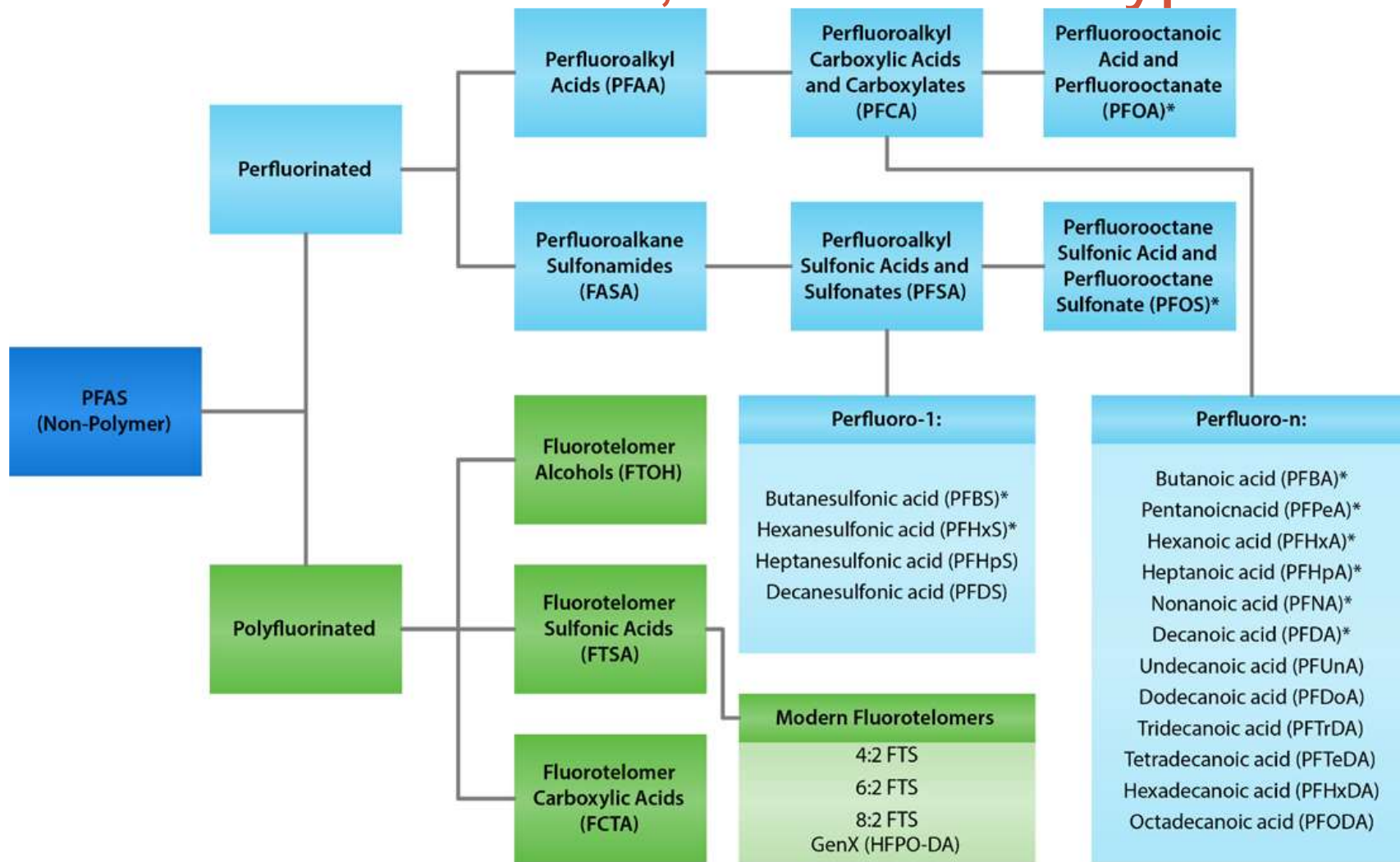
Source:  
**EGL**

MICHIGAN DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY

800-662-9278 | [Michigan.gov/PFASresponse](https://Michigan.gov/PFASresponse)

7/2019

# PFAS are synthetic compounds. There are more than 9,000 different types



\* Denotes compounds with at least one state-specific standard.

# Origin and Lifecycle of PFAS

- A synthetic chemical with origins starting in the 1950s (initially as long chain PFOA) and used to enhance stain resistance and similar properties in commercially-available products such as rain coats, furniture, carpeting, cosmetics, food packaging.
- PFAS are not Essential chemicals or products. They are a convenience and marketing product.
- Commercial products used and manufactured globally. Air emissions and direct manufacturer releases. Wastes disposed of in landfills, septic systems, waste water treatment plants – biosolids.
- Eventually, industry testing finds and (not always) reports toxicological testing or observations of harm
  - 1961 - DuPont finds evidence of liver toxicity in animals
  - 1962 - DuPont finds evidence of toxicity in humans
  - 1976 - 3M finds PFOA in workers' blood
  - 1981 - 3M finds PFOA causes rare birth defects in rats
  - 1981 - DuPont workers give birth to infants with similar rare birth defects. All women workers are re-assigned by Dupont to other (non PFOA/PFAS) divisions
  - 1984 – DuPont finds PFOA in community drinking water
  - 1987 – 3M looks for uncontaminated blood samples to compare to their workers and finds widespread global contamination.
  - 1998 - 3M reports results to EPA and eventually develops short chain PFAS to replace PFOA, as PFAS has less exposure duration risk than long chain PFOA.
  - EPA fines Dupont and later 3M.
  - 2009 – EPA issues health advisory to the public.
  - 2023 – EPA proposes risk- and analytically-achievable standard for drinking water (4 ppt)

Sources: DuPont and 3M documents in EWG's Chemical Industry Archives; Toxic Docs (Columbia SPH); Callie Lyons Stain Resistant, Non-stick, Waterproof and Lethal: The Hidden Dangers of C8 (2007); EPA April 2023 News Release.

# PFAS Tort Litigation “Dark Waters” Movie

**The case that laid the groundwork for modern day PFAS litigation was *Leach v. E. I. du Pont de Nemours & Co.*, No. 01-C-698 (Wood County W. Va. Cir. Ct.).**

Leach was a class action lawsuit filed on behalf of approximately 80,000 residents who lived in close proximity to DuPont’s Washington Works manufacturing complex. The plaintiffs alleged that they had sustained bodily injury from water contaminated by the chemical C-8 (PFOA), a type of PFAS that is used in the manufacturing of Teflon. The Leach action and the Washington Works facility are the subject of the 2019 feature film “Dark Waters.”

Eventually, DuPont and its successor at the Washington Works facility, the Chemours Company, settled the remaining cases in MDL 2433 for \$671 million. Additional class plaintiffs would later file new cases in the MDL, which remain active today.

# Lots of different Exposure Pathways



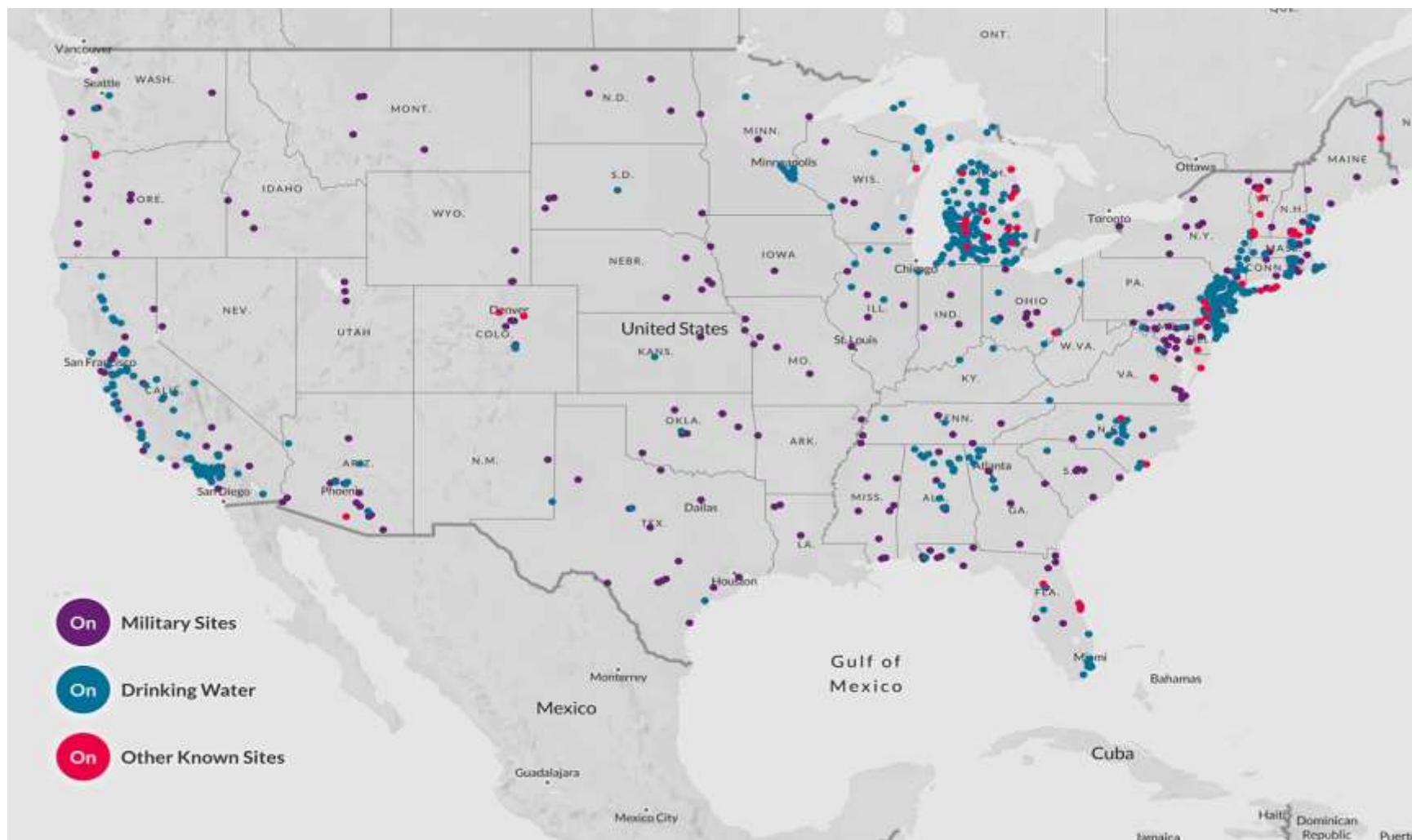
New research suggests people may absorb PFAS through their skin from stain-resistant carpeting and water- and stain-repellent textiles. (Photograph Credit: Picsea/Unsplash)

# Why are they called the Forever and Everywhere Chemical?

- Widely distributed in consumer products and industry globally (starting circa 1950s-60s). Increased in year 2000
- Soluble in water.
- Persistent (not readily degraded) in the environment and blood. It accumulates over time.
- Thrown away in solid waste.
- Discharged with waste water (private and regional).
- Reused as biosolids (promoted as a soil amendment and fertilizer for farmland).
- Adheres to carbon and clays in soil.
- Emitted as an air pollutant and travels over great distances.



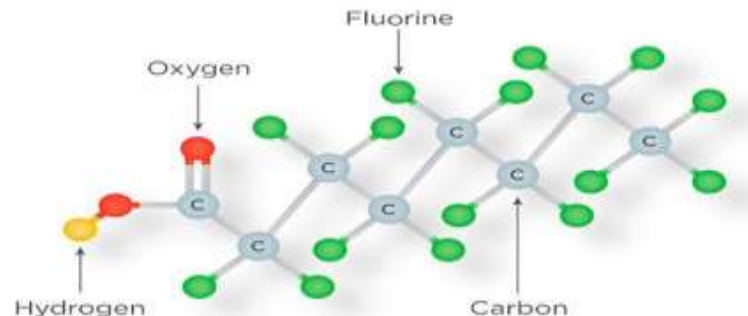
# PFAS Contaminated Sites in the U.S.



Source: April 10, 2023 Northeastern University Global News publication; accessed online April 10, 2023

# Per- and Poly-fluoroalkyl (PFAS)

- PFAS is an “Emerging Contaminant” What does that mean?
  1. Recognized by Regulatory Agencies as being a toxic substance with health risks.
  2. Widely distributed in the environment (from manmade products and waste).
  3. No current health standards developed or new risk information warrants lower standards.
  4. Federal and/or State task forces or “working groups” typically evaluates response and recommendations to the public as new data is available and reviewed.
  5. PFAS has just started to transition into a Federally-regulated (March 14, 2023) contaminant. Currently Federal and most State agencies have guidelines or recommended thresholds.

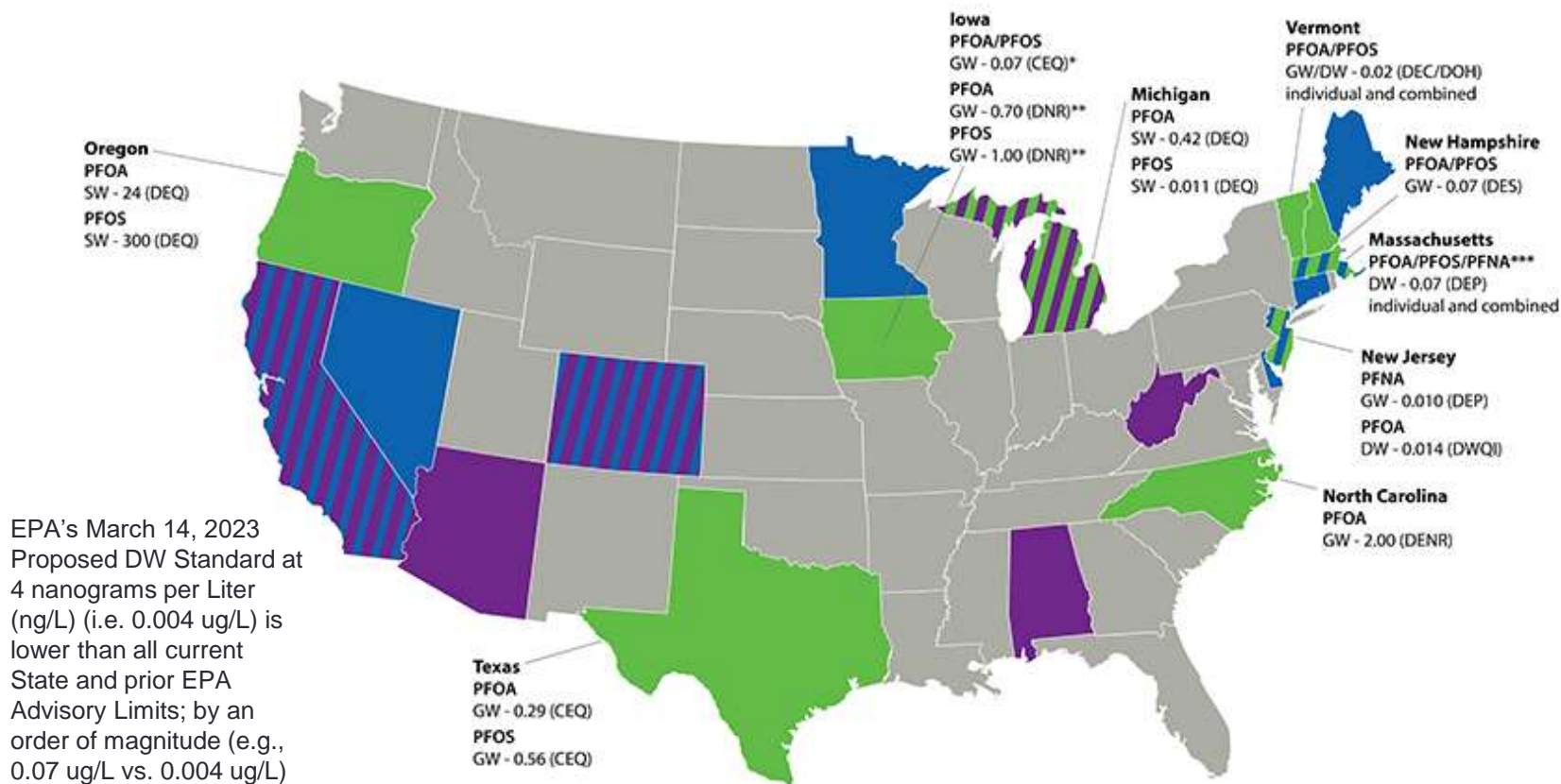




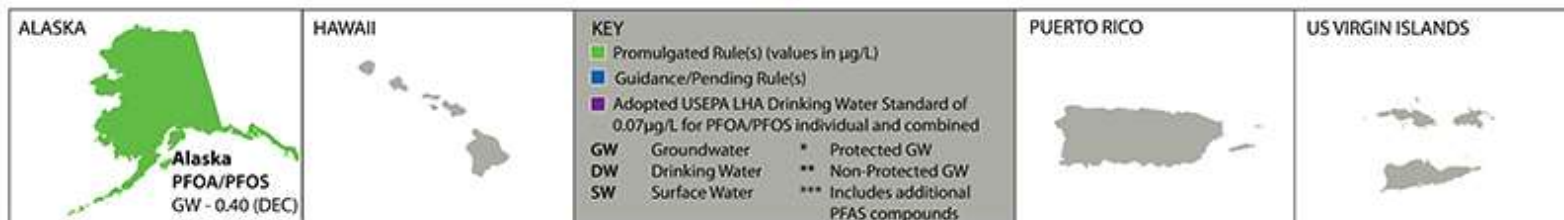
# Where are we now with Regulation

- **March 14, 2023 EPA proposes legally enforceable limits for six PFAS compounds in drinking water.** Note: there are more than 9,000 types of PFAS and similar compounds.
- Limits would regulate PFOA and PFOS as individual contaminants, and will regulate four other PFAS – PFNA, PFHxS, PFBS, and GenX Chemicals – as a mixture.
- PFOA and PFOS: EPA is proposing to regulate PFOA and PFOS at a level they can be reliably measured at 4 parts per trillion (4 ppt).
- PFNA, PFHxS, PFBS, and GenX Chemicals: EPA is also proposing a regulation to limit any mixture containing one or more of PFNA, PFHxS, PFBS, and/or GenX Chemicals. For these PFAS, water systems would use an established approach called a hazard index calculation, defined in the proposed rule, to determine if the **combined** levels of these PFAS pose a potential risk.
- If finalized, the proposed regulation will require public water systems to monitor for these chemicals. It will also require systems to notify the public and reduce PFAS contamination if levels exceed the proposed regulatory standards. EPA anticipates that if fully implemented, the rule will, over time, prevent thousands of deaths and reduce tens of thousands of serious PFAS-attributable illnesses. This action establishes nationwide protection from PFAS pollution for all people, including environmental justice communities.
- As a consumer product, many states have use and restriction for use guidelines. Some states restrict use or consumption of food from hunting (deer) or fishing from areas of documented PFAS contamination.

# Regulated Status by State (PFOA/PFOS/PFNA) (Dec. 2022)



EPA's March 14, 2023 Proposed DW Standard at 4 nanograms per Liter (ng/L) (i.e. 0.004 ug/L) is lower than all current State and prior EPA Advisory Limits; by an order of magnitude (e.g., 0.07 ug/L vs. 0.004 ug/L)



# Be Proactive

- Incorporate Legal Advice with PFAS and Emerging Contaminant Health and Business Risk Mitigation, Management and Planning for Clients.
- Follow recent developments and news provided by Federal and State working groups and Industry Trade Associations.
- Lawyers, Risk Managers, Industry and Consumer Groups need to align themselves with emerging contaminants of concern (ECs) and Risk Management. PFAS/PFOA is only one of many ECs.
- There are over 9,000 different types of PFAS/PFOA used globally. In the U.S., 12 are currently recognized as needing to be “tested” for by regulated communities.

# What do Emerging Contaminant Working Groups do?

- Bring together Health, Toxicology, Regulatory, Analytical regulated community, academics, environmental and remediation consultants.
- Goal - establish well supported and achievable (analytical and treatability) health risk guidance and standards that incorporate “background”.
- Can establish regulations or standards at the State level before Federal but once Federal standards are published, States typically adopt the regulatory standard by media (drinking water, etc.). States may set lower standards or new standards for other media (biosolids, waste water, surface water and soil).

# Environmental Assessment Concerns

- Who, what and where are the “sources” coming from.
- Multiple potential sources, low level risk concentrations, remains in human body for long periods of time.
- Extremely low regulatory limits, guidelines and detection limits  
- only few labs are set up to run these samples.
- - Need to clearly define – What Parties are likely the “most likely and biggest” sources of contamination. There will likely be many confounding smaller parties and sources of impact.
- Reminds me of many of the issues in the other EC (TCE) case documented by the movie “Civil Action”
- Hydrogeologic understanding of subsurface migration pathways is very important when assessing soluble and persistent contaminants; sources, risks and remediation options.

# Applicable Treatment Technologies

- Some PFAS compounds in drinking water have been shown to be amendable to removal with conventional treatment technologies:
  - Granular Activated Carbon
  - Reverse Osmosis
  - Anion-Exchange Resin
- Remediation Technologies exist for larger subsurface soil “sources”
- Innovative Technologies are being researched and tested for larger scale field contaminated sites such as biosolid application areas, and surface soils near and at sources of PFAS.
- Activity and Use Limitations, Capping, Barrier Walls and other “physical use” restrictions can be utilized.
- However, given the large number of PFAS and other similar ECs, some treatment technologies may be less effective on some EC compounds than others..



# CONTACT INFORMATION

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