



PFAS in Maryland

January 30, 2024

Maryland Department of Environment
Education, Energy & the Environment
Committee

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Water & Science Administration

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Key Points

- MDE is committed to ensure every community has access to clean drinking water
- Data and science driven process to reduce exposure risk
- While PFAS are pervasive in the environment, the risk is not high everywhere, but where it is action is taken
- Federal infrastructure funds are critical for public water systems
- The absence of a regulatory standard creates challenges
- MD's Action Plan describes what has been completed, what is ongoing and what gaps remain



What are PFAS?



- 7,000 human-made compounds
- Heat resistant/flame retardant
- Oil/grease resistant
- Water resistant
- Highly resistant to degradation
- Persistent in the environment
- PFOA and PFOS are terminus and stable end products



Exposure Risks



Drinking contaminated municipal water or private well water



Eating fish caught from water contaminated by the chemicals



Ingesting contaminated soil or dust



Eating food grown or raised near facilities that make or use the chemicals



Eating food packaged in material that contains the chemicals



Using stain-resistant carpeting and water-resistant clothing



Health Risks



Higher cholesterol



Changes in liver enzymes



Decreased infant birth weight



Decreased vaccine effectiveness in children



Increased risk of high blood pressure or pre-eclampsia in pregnant women

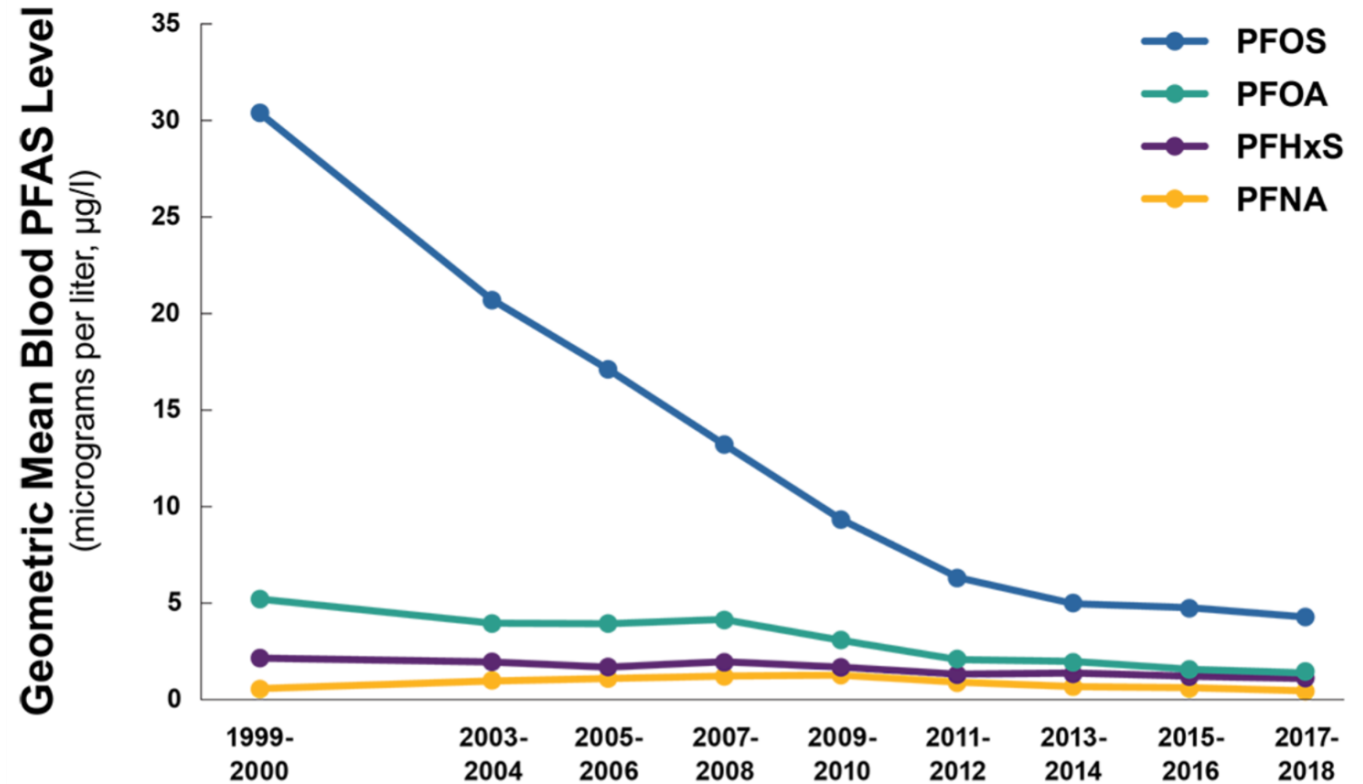


Increased risk of kidney or testicular cancers



Prevalence Over Time

- Since 2002, production and use of PFOS and PFOA in the United States have declined
- As the use of some PFAS has declined, some blood PFAS levels have gone down as well



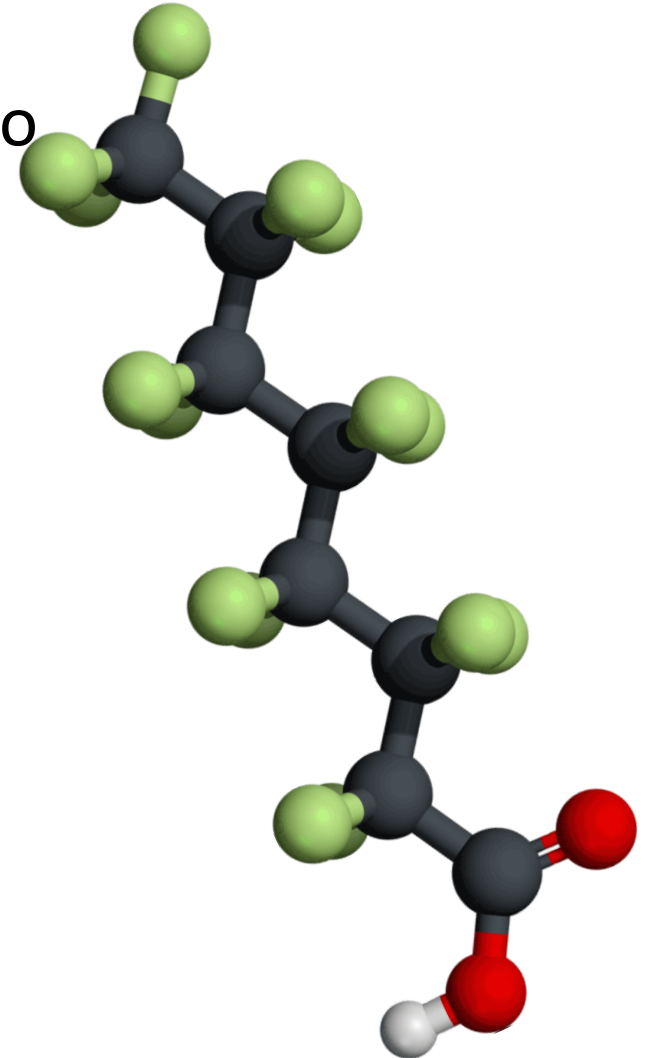
National Health and Nutrition Examination Survey (NHANES)



Maryland's Goals

A collaboration across state agencies designed to protect our communities

- **Understanding the risk** through sampling, science, and assessment
- **Communicating the risk** through public information, and outreach
- **Reducing unacceptable risks** through appropriate funding, regulation, partnerships, and agency coordination





Key Reports and Plans

- October 2020: PFAS Science Roundtable
- 2020-2022: Phase I-IV drinking water reports
- December 2022: PFAS Chemicals Report
- December 2023: PFAS Action Plan



Data Sampling and Testing

- MD developed collection methods and standard operating procedures
- Partnering with Department of Health Laboratories Administration
- Testing drinking, ground, surface water and fish
- First lab to accredit 1633, part of multi-lab validation to US EPA standards





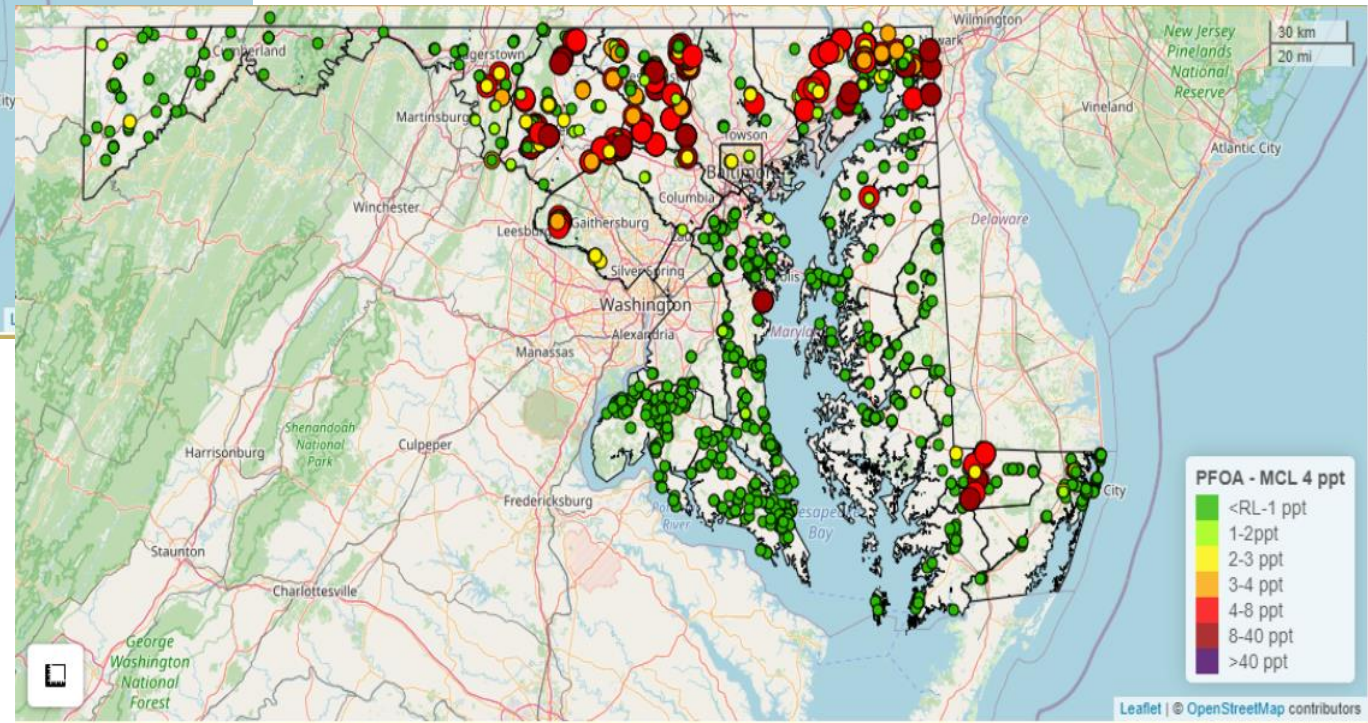
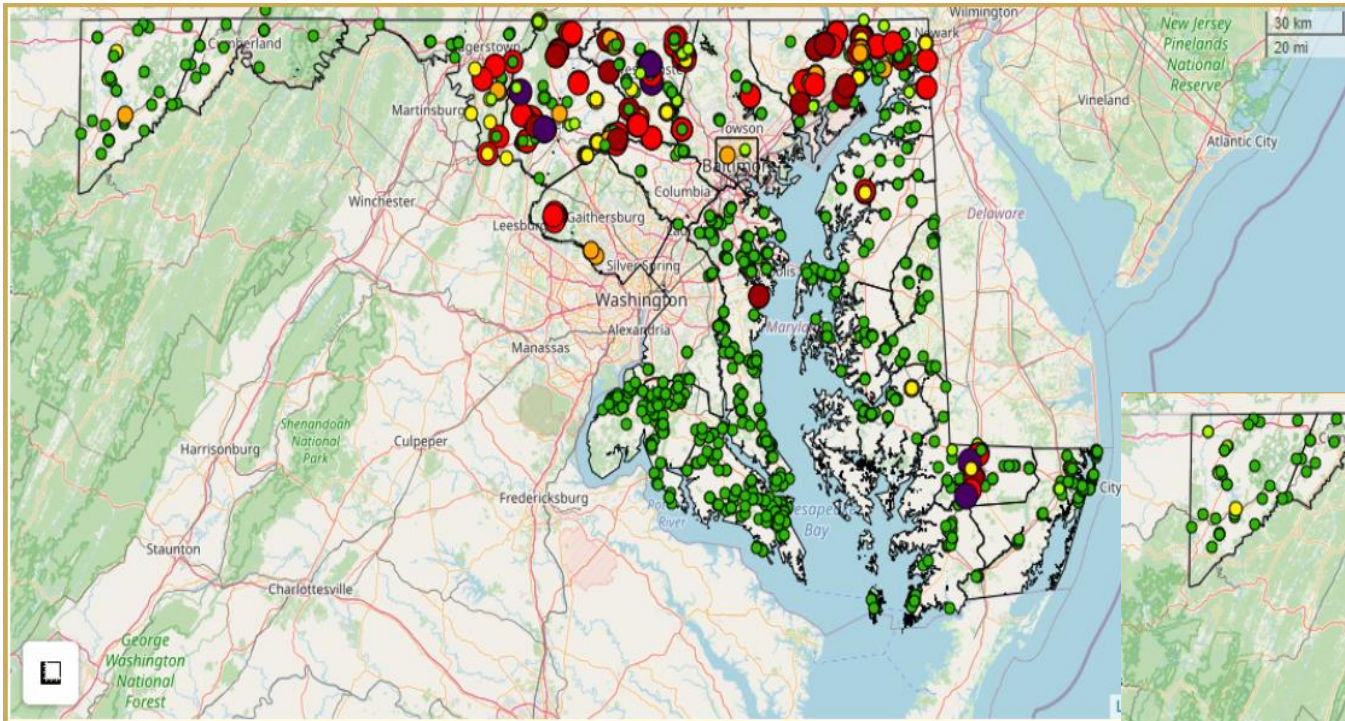
Public Water Systems

- Monitoring for all 437 systems
- Four phases completed since 2020
- 63 systems exceed maximums
- 14 systems awarded funding
- EPA proposed maximum contaminant levels (MCLs) at 4 parts per trillion
- EPA to finalize regulation in 2024





Public Water Systems





Private Wells

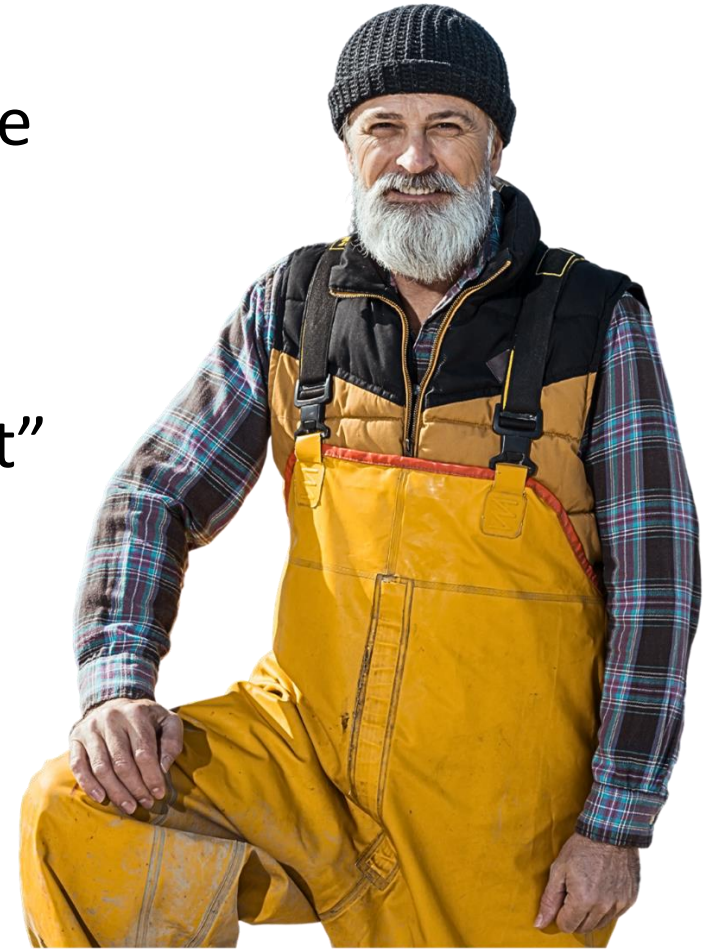
- ~10% of Maryland's population
- Not regulated
- Approach is source driven
- Homeowners responsible for maintenance and testing
- Fact sheet on our website
- Developing outreach plan with local health departments





Fish Consumption Guidelines

- Three-year study on fish tissue completed in 2023
- 73 new advisories issued (457 total)
- Virtual meeting held with stakeholders available on YouTube
- No advisories for crabs or oysters
- Meal limits range from “no limit” to “do not eat”
- Resources available online for recreational and subsistence fishermen





Military Sites

Remedial Investigations have been initiated at:

- Joint Base Andrews (JBA)
- Naval Air Station Pax River
- Webster Field Annex
- National Research Lab, Chesapeake Bay Detachment (NRL)

Not listing these chemicals as hazardous substances makes it difficult to require action





Wastewater Treatment Plants

- Conducting monitoring through voluntary sampling by facilities (over 100 facilities to date)
- Influent, effluent, and biosolids samples analyzed
- Facilities with elevated levels required to conduct monitoring and develop a source tracking and minimization plan (14 facilities)
- Land application of biosolids policy





Pesticides



- MDA submitted study to the General Assembly Nov 2023 indicating the need for developing more reliable testing methods
- MDE is considering actions to address PFAS in the general permit for pesticide application, which will be up for renewal in 2025



Product Bans

- Sale, use, manufacturing, or distribution of rugs, carpets and food packaging containing PFAS prohibited as of Jan. 1, 2024
- Public notifications will include postings on our website and letters directed to manufacturers, vendors and other affected entities
- Firefighting foam takeback program





Air Emissions



- Over 2,000 commercial and industrial facilities are potential sources
- Can contaminate groundwater and surface water
- Evaluating test data to determine if further actions are required to control PFAS emissions from these sources



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