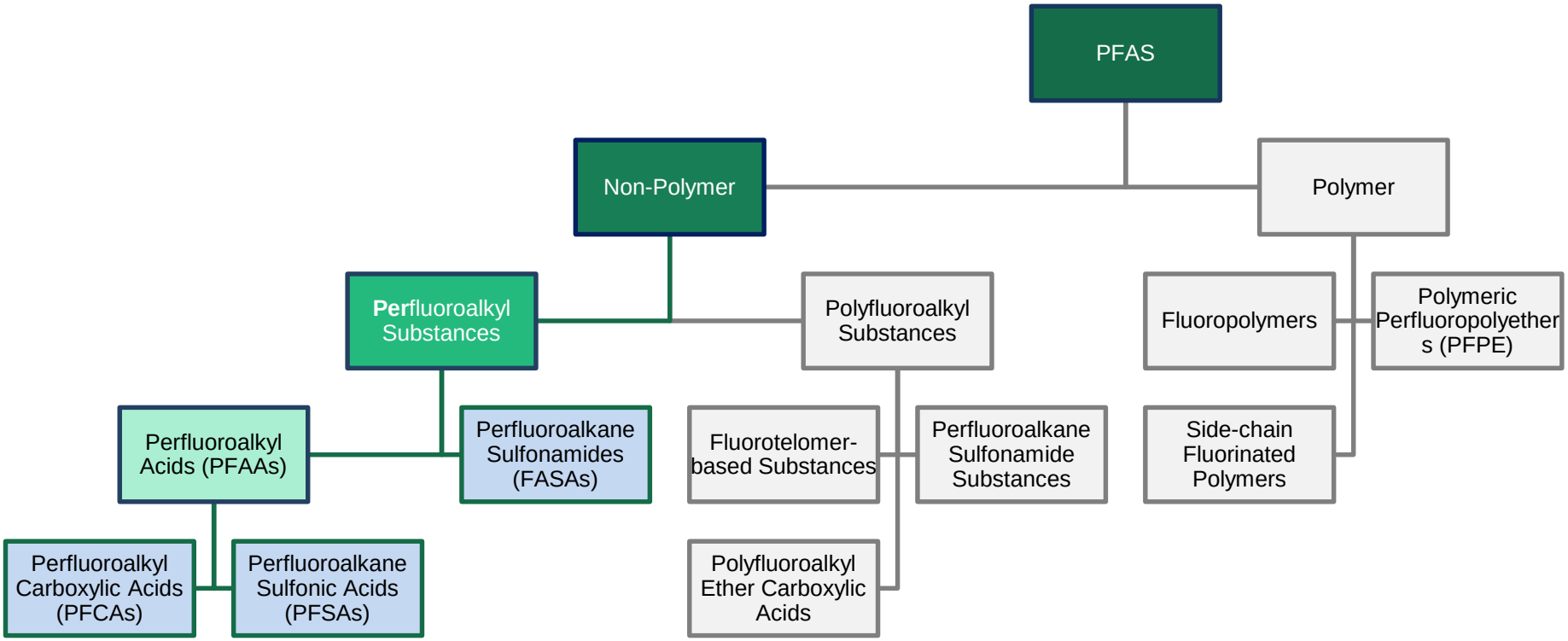
Maryland
Department of
the Environment

Understanding, Communicating, and Managing the Risks of PFAS in Maryland

Overview- Maryland PFAS Initiatives

- Previously Completed PFAS Work
- PFAS Initiatives Currently Underway
  - Understanding Drinking Water Exposure Risks
  - Other occurrence studies, risk communications, and work
- Future Initiatives to be Considered
- PFAS Laws and Regulations

Overview of the PFAS Family



What are “problem areas?”

- Generally, contamination is associated with a specific facility
  - Fire training facility, military installation, industrial sites
  - Cumulative, localized impact on nearby drinking water supplies
- Contamination of drinking water and accumulation of aquatic species – national concern
- In Maryland – legacy compounds may be main concern
  - New generation PFAS has not been detected in first two phases of MDE’s PWS Study (e.g., GenX and ADONNA)
- More investigation required

Previously Completed PFAS Work

2012-2015
- UCMR3- Monitoring of 6 PFAS
- PFOS, PFOA, PFNA, PFHxS, PFHpA, PFBS

2016 - 2019
- Formation of Internal MDE PFAS Workgroup

Late 2019-Aug. 2020
- Planning of Multi-Phased Public Water System (PWS) Study

May 2020 – Sept. 2020
- Planning and Implementation of St. Mary's PFAS Pilot Study

Fall 2020
- Development of PFAS Spill Response SOP
- Integration of PFAS analysis in fish tissue monitoring framework (ongoing)
- Hosted PFAS Roundtable (October 2020)

Fall 2020-May. 2021
- Implementation and Completion of PWS Study - Phase 1 & 2

PFAS Initiatives Currently Underway

Risk-based prioritization approach to protecting public health:

- Understanding the occurrence of PFAS in drinking water sources (PWS Study Phases 1,2, 3…)
- Determining PFAS presence in Municipal and Industrial WWTPs (Multi-Phased Study)
- Integrate PFAS analysis into fish tissue monitoring framework (+ Piscataway Creek monitoring)
- Developing outreach documents (PFAS-containing foam users, Local EHDs)
- Formation of Workgroups: MD Interagency and Multi-State
- Regular updates toe MDE's PFAS Webpages

MDE'S MULTI-PHASED, STATEWIDE PUBLIC WATER SYSTEM STUDY FOR PFAS IN DRINKING WATER

PWS Study for PFAS in DW- Planning Stage (Completed)

- Data Collection- geospatial info for 2,000 potential sources of PFAS throughout the State
- GIS Analysis: assess proximity of sources to DW supplies
- Integration of Geological Setting, Source Water Type, and other system-specific information
- ID Lab for Analysis (MDH-Laboratories Administration- EPA Method 537.1)
- Establish sampling protocols – limiting the risks of cross-contamination

PWS Study - Response Plan Development (Completed)

- Prior to Phase 1 Implementation
- Based on PFOA + PFOS concentrations
- Outlines additional actions to be carried out by MDE and/ or utilities
  - E.g., additional monitoring, treatment implementation, source abandonment, etc.
- Thresholds: 70, 35, 28 parts per trillion (ppt)
  - 70 ppt: USEPA HAL for PFOA + PFOS
  - 35 ppt: ½ HAL; similar to MCL responses
  - 28 ppt: accounts for SPE variability

PFAS PWS Study – Phase 1 (Completed: Sept. 2020 – Feb. 2021)

- Risk-based Prioritized Approach
  - Monitored 129 Community Water System Water Treatment Plants (CWS-WTPs)
  - Withdrawing and treating surface water or groundwater from **unconfined/semi-confined** aquifers
  - Within 1,000-ft radius of **potential** sources of PFAS
  - serving ~4.3 million Marylanders (~70%)
  - Monitored 11 “reference” CWS-WTPs
- Report made publicly available July 1, 2021

PFAS PWS Study – Phase 2 & 3

Phase 2 (Mar. 2021- May 2021)

- Similar methodology used as in Phase 1
  - Maintain focus on groundwater from UC/SC aquifers
  - Sampling of select confined groundwater sources
  - Expanded PFAS search radius from 1,000 feet to 1 mile
  - Sampling raw water sources instead of finished water
- PFAS found intermittently throughout the study

Phase 3 (Late Summer 2021)

- Focus:
  - Remaining CWS drinking water sources
- Rate of implementation dependent upon funding

MDE'S MULTI-PHASED WWTP PFAS STUDY

MDE Multi-Phased WWTP Study

Phase 1: Source Evaluation and Policy Development

- Working with (1) WWTP to understand PFAS in:
  - influent, biosolids, effluent
- Aim to work with additional POTWs (~15) (effluent) (Q3 2021)
- Develop action levels (forthcoming)

Phase 2: Implementation of PFAS Requirements in NPDES

- Monitoring and reporting schedules based on effluent levels of potential PFAS sources
- Adaptive management approach
- Goal: reduce or eliminate contributions of PFAS substances in effluent

MDE'S PFAS IN SEAFOOD EFFORTS

PFAS in Seafood and Fish Tissues

- Piloted an approach to measuring PFAS in oyster tissues and surface water (St. Mary's Pilot Webpage)
  - Developed site-specific, screening levels for swimming and oyster consumption
- Shifted fish tissue/surface water monitoring to focus on PFAS. Secured EPA Grant funding for approx. 90 sites statewide (2-3 year plan
- Additional Targeted Fish Tissue Monitoring in Piscataway Creek
- Following EPA progress on Aquatic Life and Human Health Water Quality Criteria for PFOA and PFOS for use in fish consumption advisories, WQ assessment, permit limits, etc.

Other PFAS Initiatives Currently Underway

- Continue to work with Federal Facilities & Remediation Assistance (Land Restoration Program)
- Developed and Implemented PFAS Spill Response SOP (Compliance Program)
- Incorporating PFAS language into Industrial Stormwater Permit (Wastewater Permitting Program)

Future PFAS Work to be Considered

- Bettering our understanding of PFAS in drinking water supplies (public & private)
  - Collecting PFAS monitoring data from other systems
  - Developing policies and outreach materials for private well owners
- PFAS Roundtable Recommendations
  - Developing the Maryland “PFAS Footprint”
  - Assessing impact of MD’s Fresh-Estuarine-Saltwater gradient on PFAS Fate and Transport
  - Researching the accumulation of PFAS in shellfish (i.e. blue crabs)

Federal and State Regulatory Actions

Federal

- Safe Drinking Water Act: MCL Development
  - 2016 EPA Health Advisory Level for PFOA + PFOS (70 ppt)
  - Final regulatory determination for PFOA + PFOS (Proposed MCLs March 2023)
  - PFAS Monitored under UCMR3 (2012-2015) and UCMR5 (2023-2025)
- PFAS under Toxics Release Registry (TRI) (NDAA FY2020)
  - Reporting requirements for 172 PFAS compounds
  - Report of use by 7/1/2021
- PFAS under the Toxic Substances Control Act (TSCA- SNURs)
- PFOA + PFOS as hazardous substances under CERCLA (in development)
- Phase out use of PFAS-containing foams by 10/2024
  - prohibition of foams for training exercises*
  - investigate PFAS-free alternatives (1/2023) and make available (10/2023)

State

- Oct. 2021: ban on PFAS-containing foams for training
- 2020 MD General Assembly-drafted legislation to regulate PFAS in:
  - Carpet, food packaging, firefighting foams
- Integration of PFAS language into Industrial Stormwater Permits (Draft)

Where can I find more information?

- MDE's PFAS Landing Page
  - https://mde.maryland.gov/PublicHealth/Pages/PFAS-Landing-Page.aspx
- MDE's Water Supply PFAS Webpage
  - https://mde.maryland.gov/programs/Water/water_supply/Pages/PFAS_Home.aspx

QUESTIONS?

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