ADEM Water Division Update

Manufacture Alabama

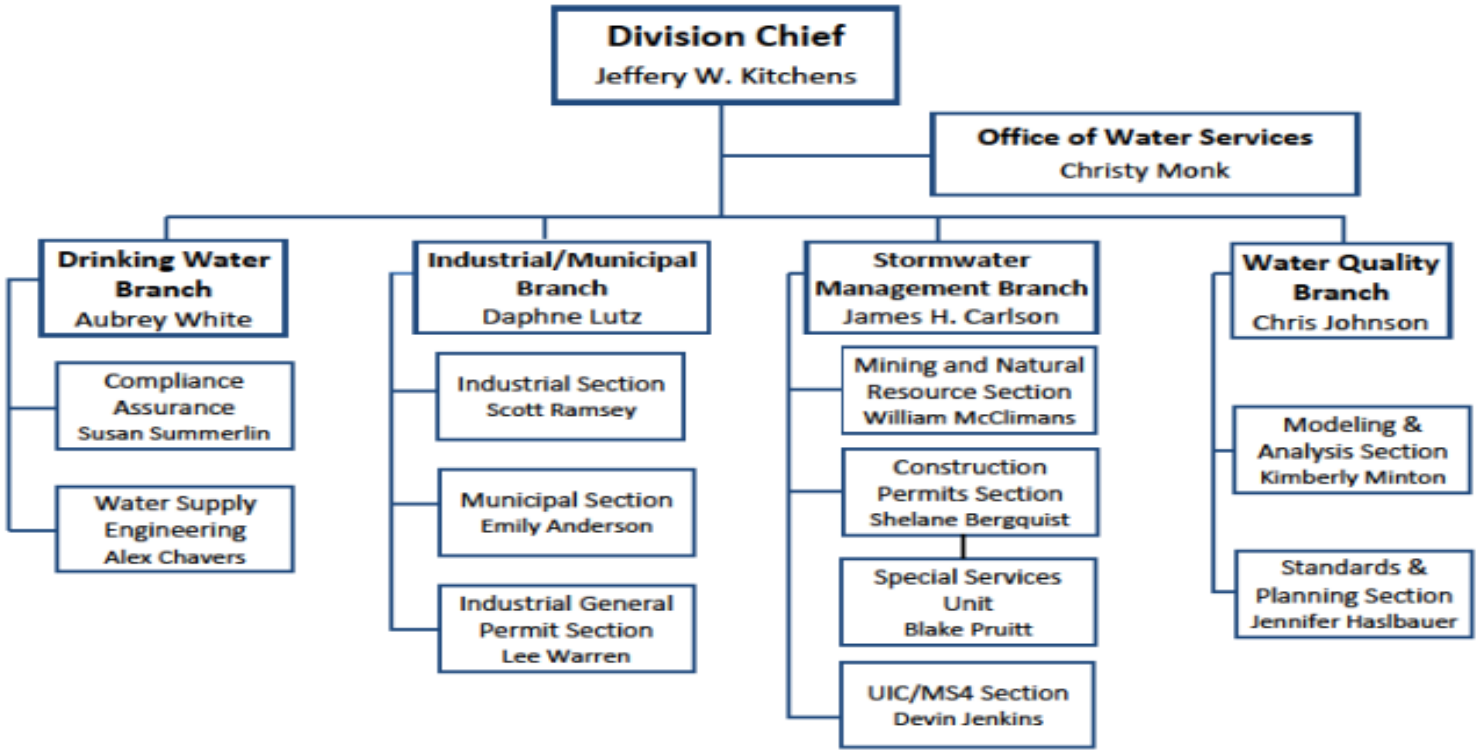
November 16, 2023

Jeffery W. Kitchens, Chief
Water Division

Overview

- Water Division Organization
- WOTUS
- Water Quality Update
- PFAS
- Contacts

Water Division Organizational Chart



WOTUS

- **January 2023** - 2023 Rule published –"Revised Definition of Waters of the United States'"
- **March 2023** - 2023 Rule effective
- **May 2023 –** *Sackett* Supreme Court decision
- **June 2023 -** EPA and Army announce plans to issue a final rule amending the 2023 rule
- **August 2023 -** Final rule amending the 2023 rule: signature and announcement
- **September 2023 -** Final rule amending the 2023 rule: publication and effective date
- **October 2023** – Clean Water Act of 2023 (Navigable Waters vs. Protected Water Resources)

WOTUS

- The Court concluded that the *Rapanos* plurality was correct: the CWA's use of "waters" encompasses only those **relatively permanent, standing or continuously flowing bodies of water** forming geographical features that are described in ordinary parlance as streams, oceans, rivers, and lakes.
- The Court also agreed with the *Rapanos* plurality that wetlands are "waters of the United States" when the **wetlands have a continuous surface connection to bodies that are "waters of the United States"**in their own right, sothat there is no clear demarcation between "waters" and wetlands.
- Due to ongoing litigation, the January 2023 Rule is not currently operative in certain states and for certain parties. The agencies are implementing the January 2023 Rule, as amended by the conforming rule, in 23 states, the District of Columbia, and the U.S. Territories. In the other 27 states and for certain parties, the agencies are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime and the Supreme Court's decision in *Sackett* until further notice.
- https://www.epa.gov/wotus

TMDLs Approved in FY2023

Waterbody Name	Waterbody ID	River Basin	County	Pollutant
Bennett Mill Creek	AL03130004-0206-100	Chattahoochee	Henry	Pathogens (E. coli)
Bruners Gin Creek	AL03130012-0202-210	Chipola	Houston	Pathogens (E. coli)
Cooper Creek	AL03130012-0201-410	Chipola	Houston	Pathogens (E. coli)
Cowarts Creek	AL03130012-0203-110	Chipola	Houston	Pathogens (E. coli)
Rocky Creek	AL03130012-0202-100	Chipola	Houston	Pathogens (E. coli)
Webb Creek	AL03130012-0201-310	Chipola	Houston	Pathogens (E. coli)
Flat Creek	AL03140202-0702-110	Choctawhatchee	Coffee Covington Geneva	Pathogens (E. coli)
Wrights Creek	AL03140203-0201-100	Choctawhatchee	Geneva	Pathogens (E. coli)
Shirtee Creek	AL03150107-0104-100	Coosa	Talladega	Pathogens (E. coli)
Tallaseehatchee Creek	AL03150107-0106-100	Coosa	Talladega	Pathogens (E. coli)
Weewoka Creek	AL03150107-0203-100	Coosa	Talladega	Pathogens (E. coli)
Chandelower Creek	AL06030005-0301-200	Tennessee	Colbert	Pathogens (E. coli)
Rock Creek	AL06030006-0304-500	Tennessee	Colbert	Pathogens (E. coli)
Clear Creek	AL06030002-0201-100	Tennessee	Jackson	Pathogens (E. coli)
Clear Creek	AL03160201-0504-200	Tombigbee	Choctaw Sumter	Pathogens (E. coli)
Bodka Creek	AL03160108-1005-100	Tombigbee	Sumter	Pathogens (E. coli)
Noxubee River	AL03160108-1102-100	Tombigbee	Sumter	Pathogens (E. coli)

TMDLs Scheduled for FY2024

Waterbody Name	Waterbody ID	River Basin	County	Pollutant
Bear Creek	AL03150203-0108-110	Alabama	Dallas Perry	Pathogens (E. coli)
Washington Creek	AL03150203-0101-100	Alabama	Dallas Perry	Pathogens (E. coli)
Affonee Creek	AL03150202-0505-100	Cahaba	Bibb	Pathogens (E. coli)
Walton Creek	AL03150202-0506-200	Cahaba	Bibb Perry	Pathogens (E. coli)
Big Wills Creek	AL03150106-0103-100	Coosa	DeKalb Etowah	Pathogens (E. coli)
Big Wills Creek	AL03150106-0108-102	Coosa	Etowah	Pathogens (E. coli)
Perdido Bay	AL03140107-0204-302	Perdido	Baldwin	Pathogens (Enterococcus)
Bughall Creek	AL03150110-0702-100	Tallapoosa	Bullock Macon	Pathogens (E. coli)
Emuckfaw Creek	AL03150109-0308-100	Tallapoosa	Clay Tallapoosa	Pathogens (E. coli)
High Pine Creek	AL03150109-0303-100	Tallapoosa	Randolph Chambers	Pathogens (E. coli)
Tallapoosa River	AL03150108-0405-102	Tallapoosa	Cleburne	Pathogens (E. coli)
Harris Creek	AL06030006-0201-900	Tennessee	Franklin	Pathogens (E. coli)
Payne Creek	AL06030006-0201-300	Tennessee	Franklin	Pathogens (E. coli)
Bogue Chitto	AL03160106-0504-100	Tombigbee	Pickens	Pathogens (E. coli)
Horse Creek	AL03160201-0604-100	Tombigbee	Marengo Clarke	Pathogens (E. coli)

Future WQ Rulemaking

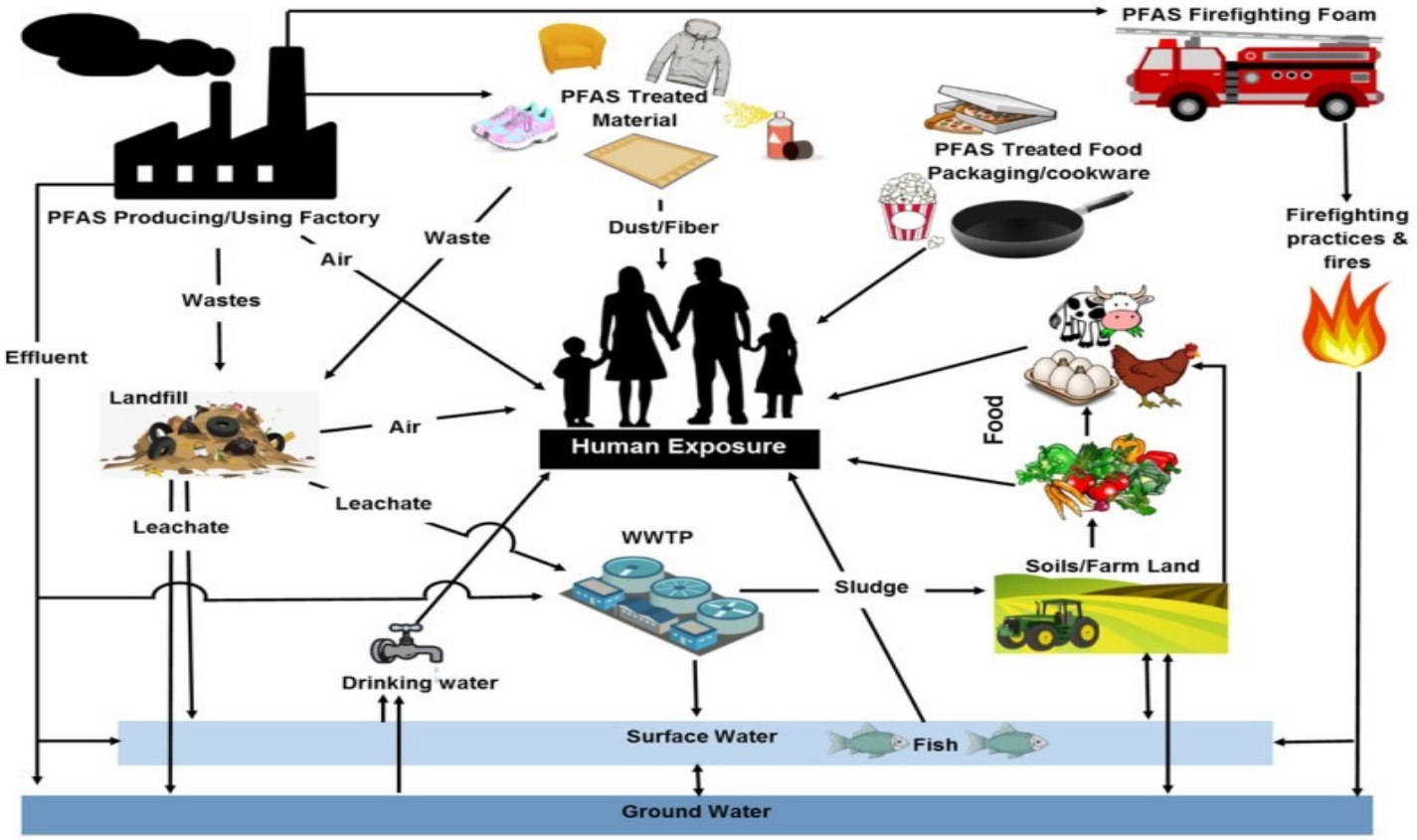
- January 20, 2022 letter from Environmental Defense Alliance, Waterkeepers Alabama, and Alabama Rivers Alliance to EPA
  - Requests EPA to make a determination that new or revised WQC are necessary to meet the CWA
  - Supplement dated July 11, 2022
  - Main focus was human health criteria
- Currently working on revisions to HHC
  - Stakeholder meetings likely this year/early next

Other WQ Activities

- Ammonia Toxicity
- IWQMAR - Due April 1, 2024
- Triennial Review – Summer 2024

ADEM

PFAS



Human Exposure and sources of PFAS
Image: DWP, adapted from Oliaei et al. 2013.

PFAS
Federal Actions

- PFAS Action Plan – February 2019
- EPA Council on PFAS – April 2021
- **PFAS Strategic Roadmap – October 2021**
  - Whole-of-Agency Approach
  - Research, Restrict, Remediate
  - https://www.epa.gov/pfas/

Drinking Water

- **Nationwide Monitoring for PFAS in Drinking Water**
  - UCMR 5 - December 2021
  - 29 PFAS + Lithium
  - Testing 2023-2025
  - First results released August 17, 2023
  - Approximately 8% of samples had detections of PFOA/PFOS and 20+% with detections of Li
  - In Alabama
    - 72 Systems Tested
    - 8 w/ Li >10ppb (not a health advisory value)
    - 7 w/ PFOS >4ppt
    - 6 w/ PFOA >4ppt

Drinking Water

➢ Proposed Drinking Water MCL

- ➢ Published in FR March 29, 2023
- ➢ Public comment period ended May 30, 2023 (>120,000 comments received)
- ➢ Final Rule expected by end of 2023

Compound	Proposed MCLG	Proposed MCL (enforceable levels)
PFOA	0 ppt*	4.0 ppt*
PFOS	0 ppt*	4.0 ppt*
PFNA	1.0 (unitless) Hazard Index	1.0 (unitless) Hazard Index
PFHxS		
PFBS		
HFPO-DA (commonly referred to as GenX Chemicals)		

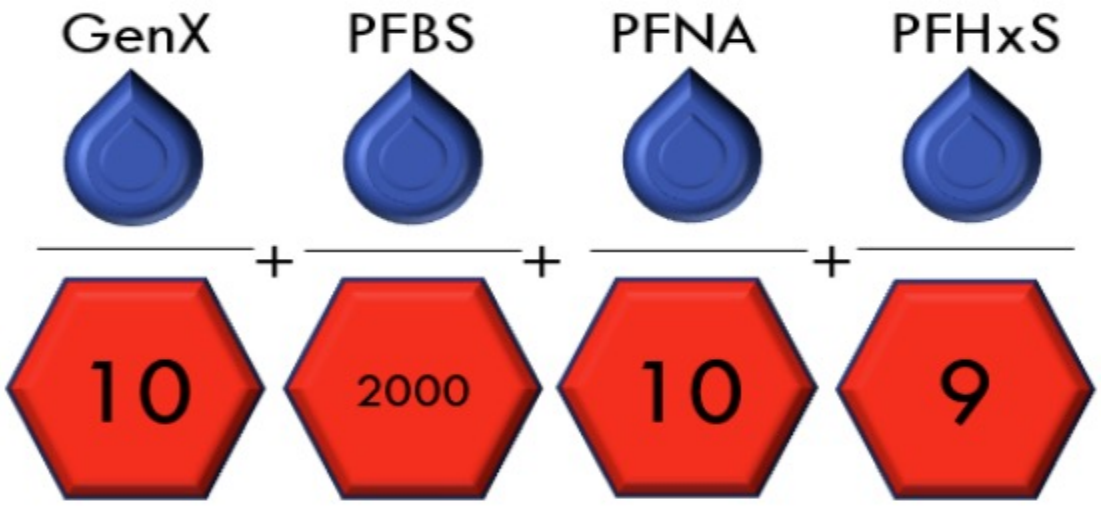
The Hazard Index is a tool used to evaluate potential health risks from exposure to chemical mixtures.

*ppt = parts per trillion (also expressed as ng/L)

Drinking Water

- **Drinking Water MCL – Hazard Index (HI)**

The HI is made up of a sum of fractions. Each fraction compares the level of each PFAS measured in the water to the level determined not to cause health effects (i.e., HBWC).



Source: https://www.epa.gov/system/files/documents/2023-04/PFAS%20NPDWR%20Public%20Presentation_Full%20Technical%20Presentation_3.29.23_Final.pdf

Drinking Water

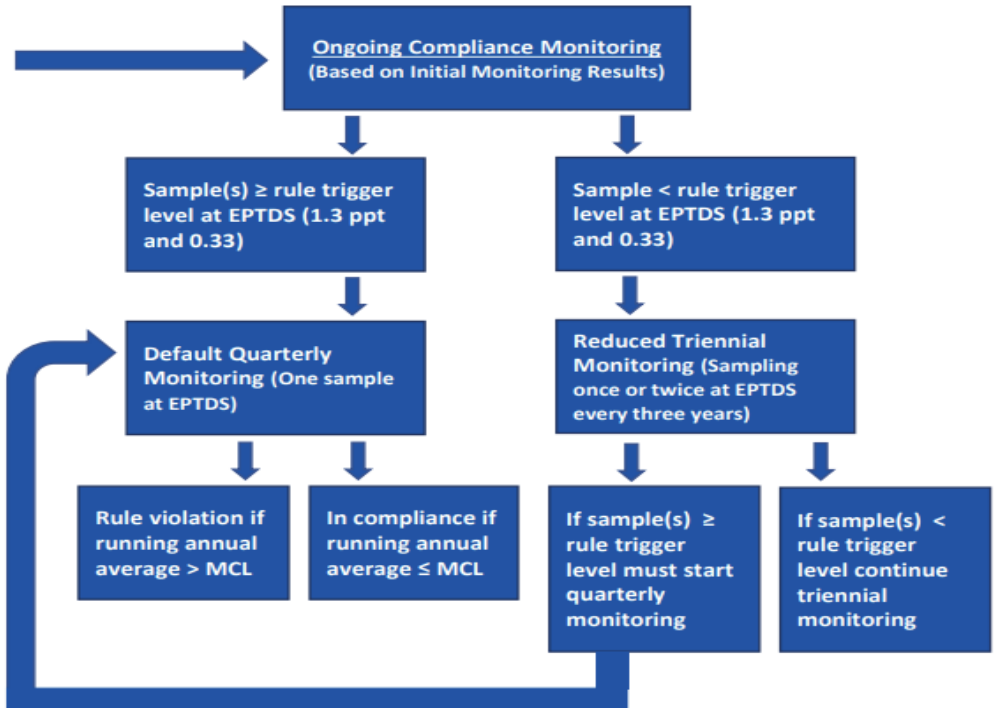
Proposed NPDWR Monitoring Requirements

Initial Monitoring

- Four quarterly samples within a 12-month period for ground water systems serving greater than 10,000 and all surface water systems
- Two semi-annual samples within a 12-month period for ground water systems serving 10,000 or fewer

AND/OR

- Use of recent, existing PFAS drinking water occurrence data



Rule Trigger Levels (1/3 Proposed MCLs)

- PFOA and PFOS = 1.3 ppt
- Hazard Index PFAS = 0.33

* EPTDS = Entry point to the distribution system

Source: https://www.epa.gov/system/files/documents/2023-04/PFAS%20NPDWR%20Public%20Presentation_Full%20Technical%20Presentation_3.29.23_Final.pdf

Drinking Water

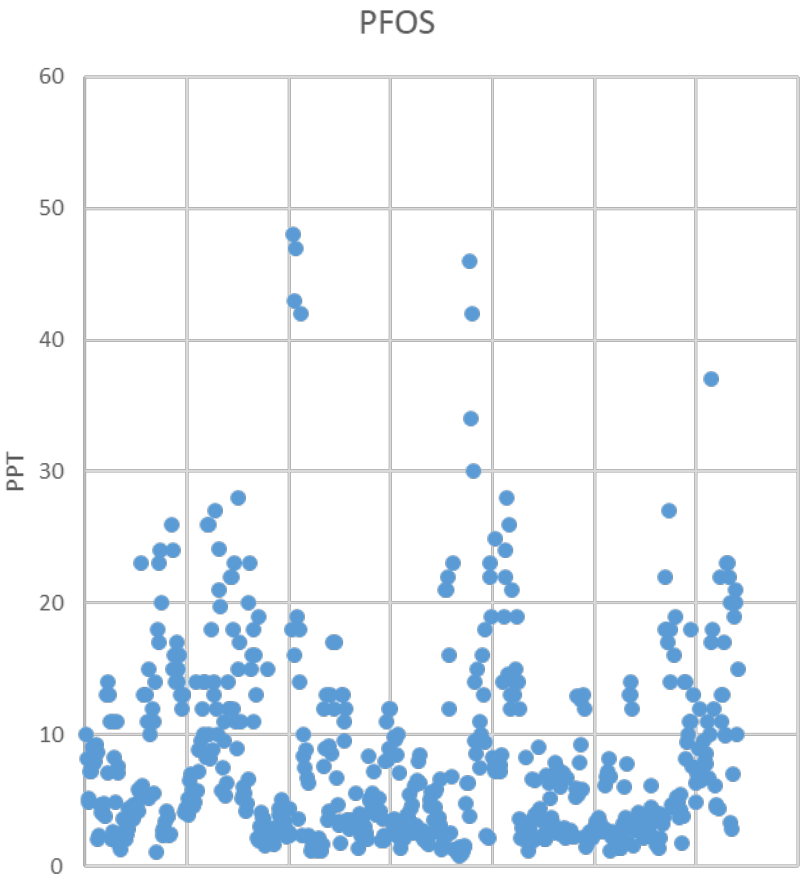
- EPA is targeting a finalization of the PFAS MCLs by the end of 2023.
- The rule must be complied with within 3 years of the federal rule being finalized
- ADEM must adopt the rule and submit a package for primacy within 2 years of the rule being finalized; we expect to meet this deadline.

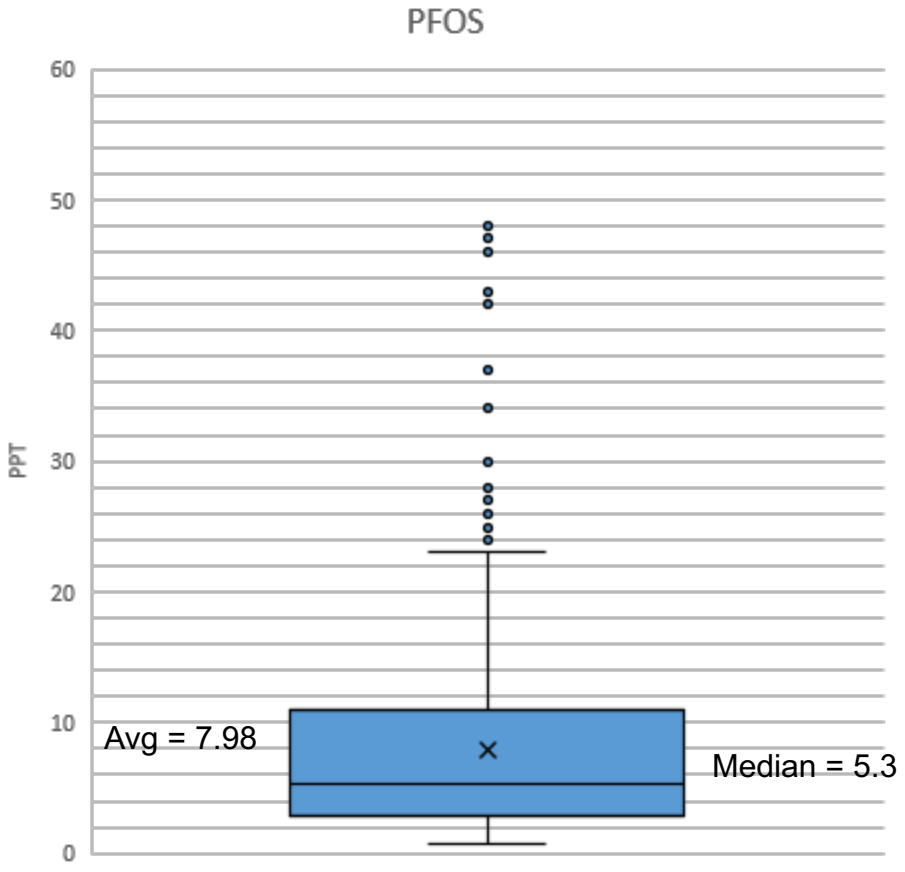
Drinking Water

Public drinking water treatment sources in Alabama tested during 2020 and 2022

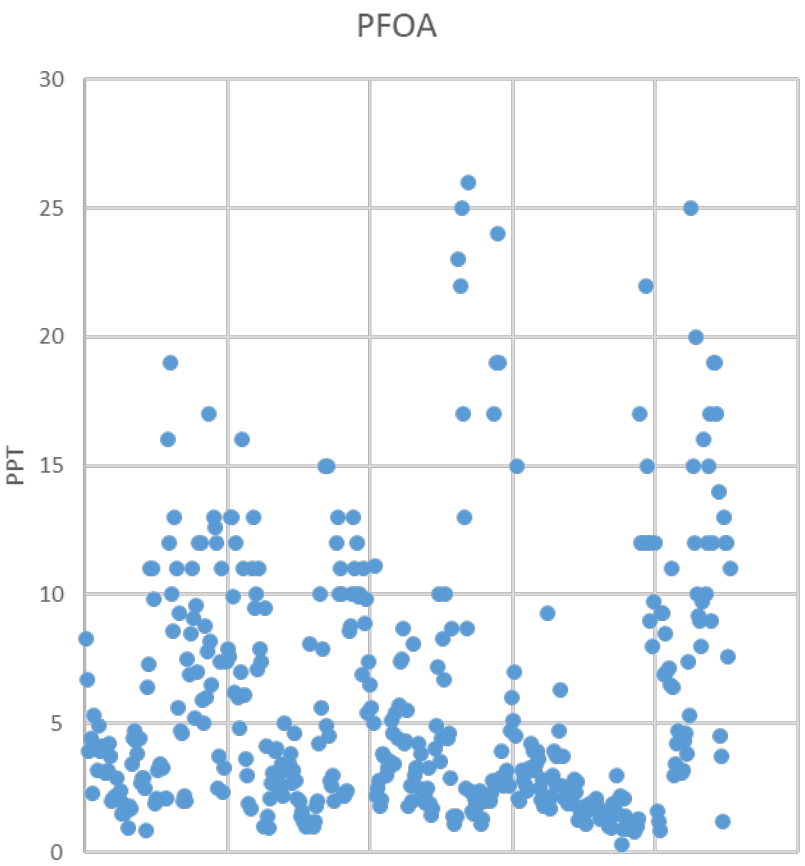
- Approximately 400 systems tested
- **Preliminary** estimates that 50-70 systems will exceed at least one of the MCLs
- Results can be found at http://adem.alabama.gov/newsEvents/reports/PFASDrinkingWaterSystemReport.pdf

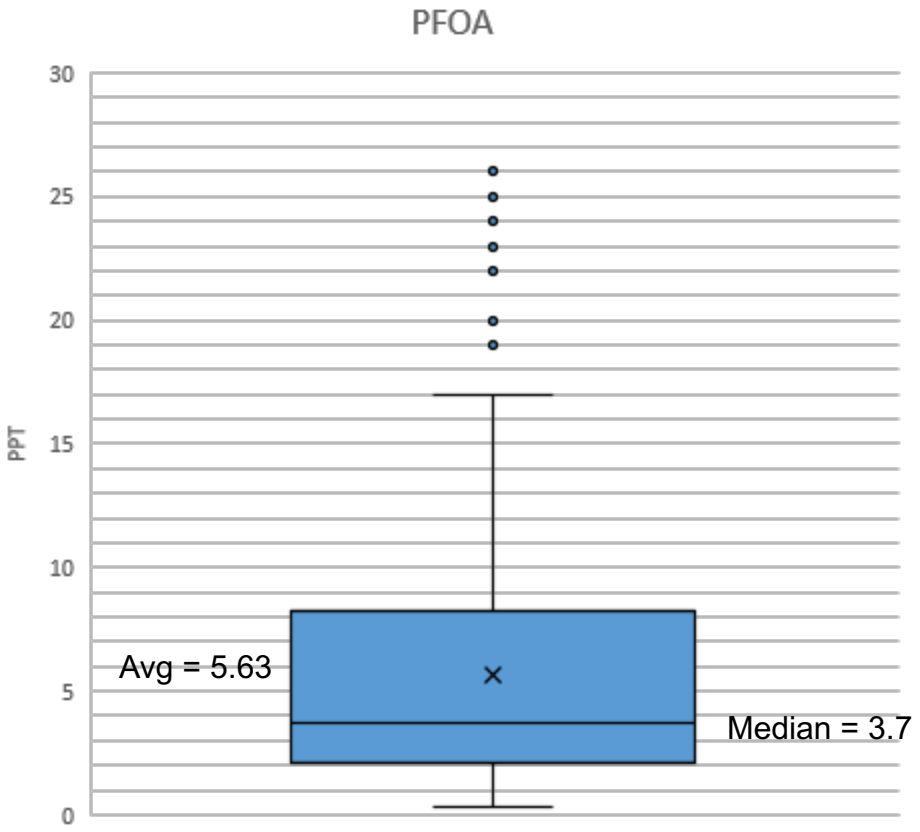
Drinking Water





Drinking Water





Funding Opportunities

- **Bipartisan Infrastructure Law (BIL)**
  - 5-Year Program
  - Year One(1) was 2022
  - AL to get approximately $15MM/year for DW
- **Emerging Contaminants in Small and Disadvantaged Communities (ED-SDC)**
  - Grant program announced February 13, 2023
  - $2 billion in funding for the nation
  - AL to get approximately $53MM

NPDES

- **Restrict PFAS discharges from industrial sources through ELG program**
  - Preliminary Effluent Guidelines Program Plan 15 published 9/14/2021.
    34,000 comments received. Document finalized January 2023.
  - Initiate Rulemaking for:
    - OCPFS – Expected Spring 2024
    - Metal finishing (Chromium Electroplating) – Expected by end of 2024
    - Landfills
  - Continued PFAS Study for Textile Mills
  - POTW PFAS Influent Study for Industrial Dischargers
    - Electrical and Electronic components
    - Plastics Molding and Forming
    - Paint Formulations
    - Leather Tanning and Finishing

NPDES

- **Leverage NPDES permitting to reduce PFAS discharges to waterways**
  - Memo April 28, 2022 for EPA permitting
  - December 6, 2022 memo to the states
  - Effluent Monitoring at least quarterly
  - BMPs for PFAS including product substitution
  - Notification of draft permits to downstream DW systems

NPDES – Water Quality

- **Publish recommended ambient water quality criteria for PFAS**
  - Aquatic life PCP ended July 5, 2022

Table 1. Draft Recommended Freshwater Aquatic Life Water Quality Criteria for PFOA and PFOS

Criteria Component	Acute Water Column (CMC)[1]	Chronic Water Column (CCC)[2]	Invertebrate Whole-Body	Fish Whole-Body	Fish Muscle
PFOA Magnitude	49 mg/L	0.094 mg/L	1.11 mg/kg ww	6.10 mg/kg ww	0.125 mg/kg ww
PFOS Magnitude	3.0 mg/L	0.0084 mg/L	0.937 mg/kg ww	6.75 mg/kg ww	2.91 mg/kg ww
Duration	1-hour average	4-day average	Instantaneous[3]		
Frequency	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in ten years, on average		

[1] Criterion Maximum Concentration.
[2] Criterion Continuous Concentration.
[3] Tissue data provide instantaneous point measurements that reflect integrative accumulation of PFOA or PFOS over time and space in aquatic life population(s) at a given site.

  - Human Health Criteria - Fall 2024

NPDES - Alabama

- Facilities in certain industrial categories will be required to monitor/report PFAS concentrations.

OCPSF	Metal Finishing
Electroplating	Electrical/Electronic Components
Textile Mills	Leather Tanning/Finishing
Plastic Molding/Forming	Paint Formulating
CWT	Landfill Leachate

  - At least semi-annual sampling
  - Draft EPA Method 1633, 1621, or other approved method
  - Began requiring in permits near the end of 2022
  - First data received July 2023

PFAS Monitoring and Minimization

- Based on results, some facilities required to develop and implement a PFAS Minimization Plan to reduce the levels of PFAS in the discharge.
  1. Good Housekeeping Practices
  2. Equipment, associated with production and/or wastewater treatment system, decontamination and/or replacement
  3. Product elimination or substitution when a reasonable alternative to using PFAS is available
  4. Immediate clean-up of any AFFF releases
  5. Source Identification
  6. Pilot Studies on treatability of wastewater
  7. Installation and operation of appropriate PFAS treatment technology(ies)

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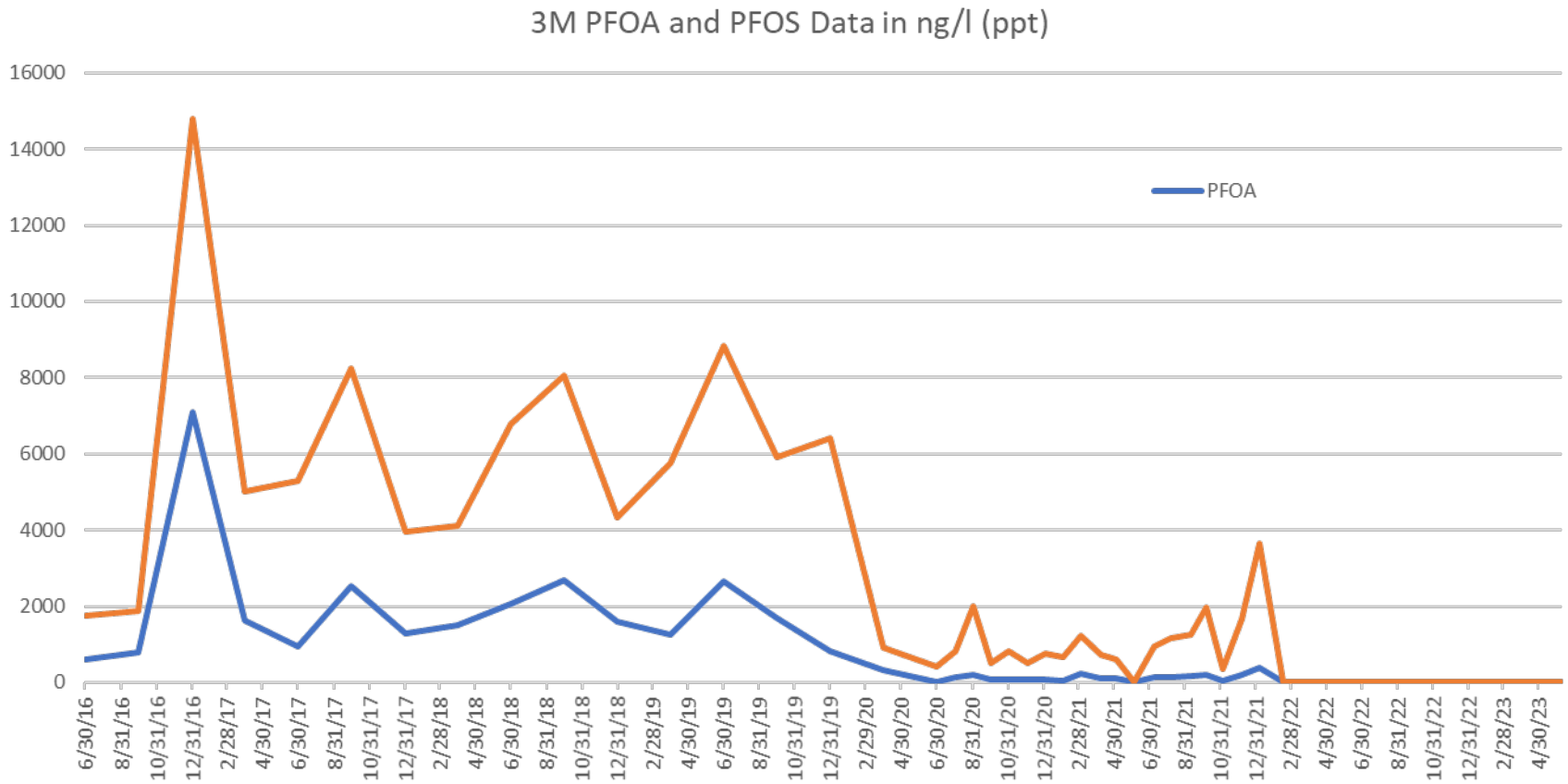
3M


3M PFOA and PFOS Data in ng/l (ppt)
16000
14000
12000
10000
8000
6000
4000
2000
0
PFOA
6/30/16
8/31/16
10/31/16
12/31/16
2/28/17
4/30/17
6/30/17
8/31/17
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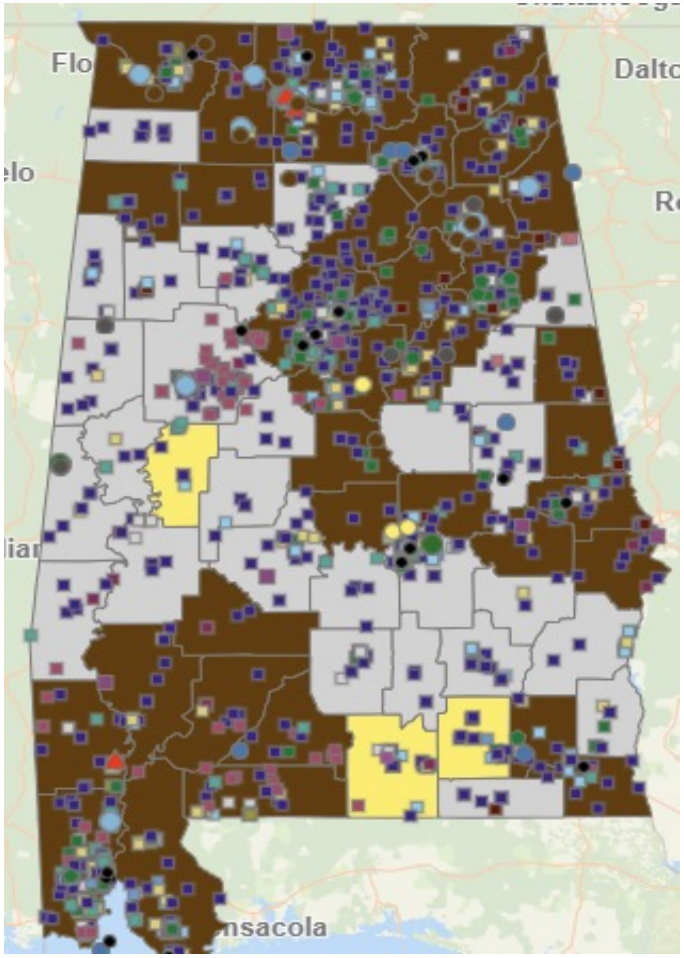
2/28/22
4/30/22
6/30/22
8/31/22
10/31/22
12/31/22
2/28/23
4/30/23

PFAS Analytic Tools

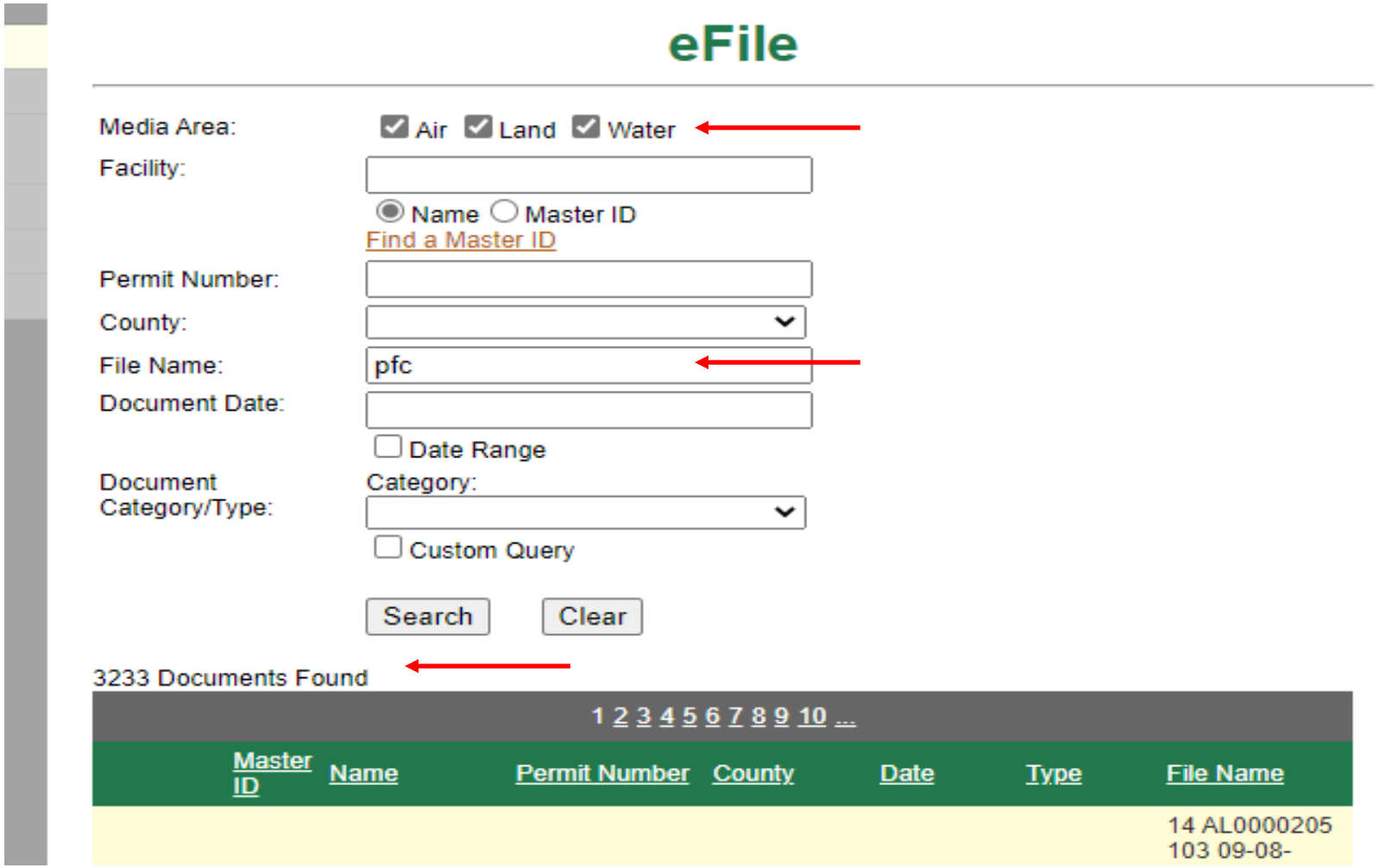
- Public version released January 5, 2023
- Pulls data from a multitude of sources and consolidates information in one location
- https://echo.epa.gov/trends/pfas-tools

PFAS Analytic Tools

- Drinking Water UCMR
- Drinking Water State
- Production
- Environmental Media
- Discharge Monitoring
- Superfund Sites
- Federal Sites
- Industry Sectors
- Transfers
- Spills
- TRI



PFAS Documents



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