



# **The Fifth Unregulated Contaminant Monitoring Rule (UCMR 5): Accessing Data and Communicating Results**

Held February 22 and 23, 2023  
USEPA, Office of Ground Water and Drinking Water

# The Fifth Unregulated Contaminant Monitoring Rule (UCMR 5): Accessing Data and Communicating Results

Public Meeting by Webinar

February 22, 2023

February 23, 2023 – repeated

Office of Ground Water and Drinking Water, Standards and Risk Management Division,  
Unregulated Contaminant Monitoring Branch



Office of Water

## Welcome

Melissa Simic, U.S. EPA

Office of Ground Water and Drinking Water

Standards and Risk Management Division

Unregulated Contaminant Monitoring Branch



Office of Water

Slide 2 of 96

| Agenda (Eastern Time) |  |
|-----------------------|--|
| February 22 and 23    | Topics   |
| 1:15-1:30pm           | Log in to the Meeting  |
| 1:30-1:40pm           | Welcome, Logistics, Agenda   |
| 1:40-1:55pm           | Overview of UCMR 5   |
| 1:55-2:15pm           | SDWARS and UCMR 5 Reporting Requirements                               |
| <b>2:15-2:30pm</b>    | <b>Break</b>   |
| 2:30-2:45pm           | UCMR 5 Contaminants and Health-Based Reference Value Information       |
| 2:45-3:00pm           | Stakeholder Access to UCMR Data  |
| 3:00-3:10pm           | Risk Communication Resources for UCMR 5 Contaminants in Drinking Water |
| 3:10-3:30pm           | Closing Remarks  |




United States  
Environmental Protection  
Agency

Office of Water  
Slide 3 of 96

## Webinar Tips

- **Webinar Slides**
  - Located under “Handouts” in the right navigation bar on your screen
    - Slides were also emailed to all registered participants
  - Contain all content that will be discussed
- **Webinar Audio**
  - Webinar lines are muted to minimize background noise (listen-only mode)
- **Webinar Support**
  - Send email to [UCMRWebinar@cadmusgroup.com](mailto:UCMRWebinar@cadmusgroup.com)
    - e.g., “I can hear you speaking, but I cannot see the slides.”



United States  
Environmental Protection  
Agency

Office of Water  
Slide 4 of 96

## PWS-Specific Questions about UCMR 5

- If you have detailed questions that apply to your **specific PWS**, contact one of the following:
  - UCMR Message Center ([UCMR5@glec.com](mailto:UCMR5@glec.com) or 1-800-949-1581)
    - **Small PWS** sampling location and schedule changes, applicability (*e.g.*, PWS merged with another PWS(s), size category has changed, source water has changed)
    - **Large and small PWS** general questions about requirements or navigating EPA's reporting system (SDWARS)
  - [UCMR@glec.com](mailto:UCMR@glec.com)
    - **Small PWS** immediate assistance on sampling, sampling kits, shipping
  - [UCMR\\_Sampling\\_Coordinator@epa.gov](mailto:UCMR_Sampling_Coordinator@epa.gov)
    - **Large PWS** sampling location and schedule changes, applicability, representative monitoring, etc.

## Additional Contacts and Information

- Central Data Exchange (CDX) Portal Help Desk
  - For CDX/SDWARS 5 registration issues, [helpdesk@epacdx.net](mailto:helpdesk@epacdx.net) or 1-888-890-1995
- EPA Contacts
  - Brenda Bowden: [bowden.brenda@epa.gov](mailto:bowden.brenda@epa.gov)
  - Melissa Simic: [simic.melissa@epa.gov](mailto:simic.melissa@epa.gov)
- October 2022 PWS Webinars for Implementation and March 2022 Stakeholder Meeting Slides with Question and Answers
  - <https://www.epa.gov/dwucmr/unregulated-contaminant-monitoring-rule-ucmr-meetings-and-materials>

## Questions Specific to this Presentation

- Click on “?” in the upper part of the control panel (Figure 1) to submit questions or comments
  - Type a question in the box, click send (Figure 2)
- Submit general questions throughout the webinar
  - Audio, visual, and other webinar software questions will be answered in the question box throughout the presentation
  - Common and clarifying questions to be answered at the end

Figure 1

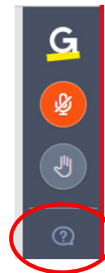
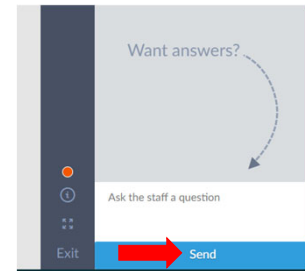


Figure 2



## General Meeting Information

- Purpose
  - Provide public water systems (PWSs), States, and other interested stakeholders with information on how to access UCMR 5 data and resources on how to communicate results
    - Overview of UCMR 5
    - Safe Drinking Water Accession and Review System (SDWARS) and reporting requirements
    - UCMR 5 contaminants and health-based reference value information
    - Stakeholder access to UCMR data
      - PWS, State, and EPA access to UCMR 5 results
      - Public and consumer access to UCMR 5 results
    - Risk communication resources for UCMR 5 contaminants in drinking water

## Overview of UCMR 5

Brenda Bowden, U.S. EPA  
Office of Ground Water and Drinking Water  
Standards and Risk Management Division  
Unregulated Contaminant Monitoring Branch

## Overview

- Regulatory background for the Unregulated Contaminant Monitoring Rule (UCMR) program
- UCMR 5 timeline of activities
- Contaminants
- Applicability to public water systems (PWSs)
- Sampling frequency and locations
- Implementation roles
- Laboratories approved to support UCMR 5

## The Safe Drinking Water Act (SDWA)

- The 1996 SDWA amendments outlined the process for developing and reviewing National Primary Drinking Water Regulations (NPDWRs)
  - Contaminant Candidate List (CCL): <https://www.epa.gov/ccl>
  - UCMR (U.S. EPA-managed implementation): <https://www.epa.gov/dwucmr>
  - Regulatory Determination: <https://www.epa.gov/ccl>
  - Six-Year Review: <https://www.epa.gov/dwsixyearreview>

More information on each program can be found in the UCMR 5 final rule public webinar presentation:  
<https://www.epa.gov/system/files/documents/2022-04/presentation-ucmr5-march-2022.pdf>

## The Unregulated Contaminant Monitoring Rule (UCMR)

- SDWA Section 1445(a)(2), as amended in 1996, established requirements for the UCMR Program
- SDWA was amended in 2018 by Public Law 115-270
  - America's Water Infrastructure Act (AWIA) Section 2021, enacted October 23, 2018
- SDWA was amended in 2020 by Public Law 116-92
  - National Defense Authorization Act (NDAA) Section 7311, enacted December 20, 2019
- EPA manages the program in partnership with States, Tribes, and Territories (hereafter referred to as "States") that volunteer to assist

## Objective of the UCMR Program

- Collect nationally representative occurrence data for unregulated contaminants that may warrant regulation under SDWA
  - Consider data collected as part of future EPA decisions on actions to protect public health
  - Provide data to States, local governments, and to the public for their use in decisions regarding public health protection

National occurrence data are publicly available at:  
<https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule>

## Timeline of Activities

The UCMR 5 Proposed Rule was published March 11, 2021 (86 FR 13846) and the Final Rule was published **December 27, 2021** (86 FR 73131)

| 2022   | 2023   | 2024 | 2025 | 2026  |
|--|--|------|------|---|
| <p>Pre-sampling Activities by EPA, States</p> <p>Pre-sampling Activities by PWSs</p> <ul style="list-style-type: none"> <li>• PWSs register for a SDWARS account to provide contact information, sampling location inventory, shipping address, and Zip Code(s)</li> </ul> | <p>← Sampling Period →</p> <p>EPA, State Implementation Activities</p> <p>PWS Sample Collection, Laboratory Analysis, Reporting<br/>(Approximately 1/3 of PWSs in each year)</p> |      |      | <p>Post-sampling Activities by PWSs, Laboratories</p> <ul style="list-style-type: none"> <li>• PWSs complete resampling, as needed</li> <li>• Laboratories conclude data reporting</li> </ul> <p>Post-sampling Activities by EPA</p> <ul style="list-style-type: none"> <li>• Complete upload of UCMR 5 data to NCOD</li> </ul> |



## UCMR 5 Contaminants: 29 Per- and Polyfluoroalkyl Substances (PFAS) + Lithium

| EPA Method 533 (PFAS monitored under UCMR 3 are in <b>bold</b> ) |  |  |   |
|--|--|--|---|
| 1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)           | 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)      | 4,8-dioxa-3H-perfluorononanoic acid (ADONA)                      | Perfluorohexanoic acid (PFHxA)              |
| 1H, 1H, 2H, 2H-perfluorohexane sulfonic acid (4:2 FTS)           | Perfluorobutanoic acid (PFBA)                                      | Hexafluoropropylene oxide dimer acid (HFPO-DA) ("GenX chemical") | <b>Perfluorohexanesulfonic acid (PFHxS)</b> |
| 1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)           | Perfluoroheptanesulfonic acid (PFHpS)                              | <b>Perfluorobutanesulfonic acid (PFBS)</b>                       | <b>Perfluorononanoic acid (PFNA)</b>        |
| Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)                       | Perfluoropentanesulfonic acid (PFPeS)                              | Perfluorodecanoic acid (PFDA)                                    | <b>Perfluorooctanesulfonic acid (PFOS)</b>  |
| Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)               | Perfluoropentanoic acid (PFPeA)                                    | Perfluorododecanoic acid (PFDoA)                                 | <b>Perfluorooctanoic acid (PFOA)</b>        |
| Perfluoro-3-methoxypropanoic acid (PFMPA)                        | 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | <b>Perfluoroheptanoic acid (PFHpA)</b>                           | Perfluoroundecanoic acid (PFUnA)            |
| Perfluoro-4-methoxybutanoic acid (PFMBA)                         |  |  |   |
| PFAS Analytes Unique to EPA Method 537.1                         |  |  |   |
| N-ethyl perfluorooctanesulfonamidoacetic acid (NETFOSAA)         | N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)          | Perfluorotetradecanoic acid (PFTA)                               | Perfluorotridecanoic acid (PFTrDA)          |
| EPA Method 200.7 or Alternate SM 3120 B or ASTM D1976-20         |  |  |   |
| Lithium  |  |  |   |



Office of Water

Slide 15 of 96

## PWSs Expected to Participate in UCMR 5 Monitoring

| System Size Category<br>(Number of people served)      | Monitoring Design<br>(CWSs and NTNCWSs) <sup>2</sup> | Total Number of Systems per<br>Size Category |
|--|--|--|
| <b>Small Systems<sup>1</sup></b><br>(fewer than 3,300) | Nationally representative sample                     | 800  |
| <b>Small Systems<sup>1</sup></b><br>(3,300 – 10,000)   | All systems, if confirmed by EPA                     | 5,147 <sup>3</sup>                           |
| <b>Large Systems</b><br>(10,001 and over)              | All systems  | 4,364 <sup>3</sup>                           |
| <b>TOTAL</b>   |  | <b>10,311</b>                                |

<sup>1</sup> This requirement is based on the availability of appropriations and sufficient laboratory capacity. As EPA obtains appropriations, PWSs will be notified by July 1<sup>st</sup> prior to their monitoring year. EPA has received appropriations for all small PWSs serving <3,300 and for 2023 and 2024 small PWSs serving between 3,300–10,000; appropriations for 2025 are expected.

<sup>2</sup> Community Water Systems (CWSs), Non-Transient Non-Community Water Systems (NTNCWSs)

<sup>3</sup> Counts are approximate



Office of Water

Slide 16 of 96

## PWS Types

- **Public Water System (PWS):** provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year
  - **Community Water System (CWS):** PWS that supplies water to the same population year-round
  - **Non-Transient Non-Community Water System (NTNCWS):** PWS that supplies water to at least 25 of the same people at least six months per year (*e.g.*, schools, hospitals)
  - **Transient Non-Community Water System (TNCWS)** (not generally included in UCMR sampling and not included in UCMR 5): PWS that provides water where people do not remain for long periods of time (*e.g.*, gas stations, campgrounds)

## Sampling Frequency and Locations

- PWSs will be required to collect samples based on the traditional UCMR sampling frequency and timeframe
- UCMR 5 samples will be collected at non-emergency entry points to the distribution system (EP or EPTDS) for all contaminants (finished water)

| Water Source  | Timeframe  | Frequency  |
|---|------------|--|
| Surface water, ground water under the direct influence of surface water, or mixed sources systems | Year-Round | Systems must monitor 4 times during a consecutive 12-month monitoring period. Sample events must occur 3 months apart.   |
| Ground water systems  | Year-Round | Systems must monitor 2 times during a consecutive 12-month monitoring period. Sample events must occur 5-7 months apart. |

## EPA Implementation Roles

- **Small PWS support:**
  - Maintain laboratory and implementation contracts to support UCMR
  - Compile contact and inventory information
  - Manage sample kit distribution and tracking
  - Fund costs associated with shipping and analyses
  - Engage PWSs and, in some cases, partnering States to collect samples
  - Coordinate sample analyses with contracted laboratories
  - Examine sample results along with quality control (QC) data and make results available to the respective State and PWS via SDWARS
  - Report data to NCOD

## EPA Implementation Roles

- **Large and Small PWS support:**
  - Extract data from SDWARS to review for completeness and reporting to NCOD
  - Support the SDWARS reporting system and users
  - Update PWS inventory and schedules as needed
  - Provide technical assistance
  - Use SDWARS for real-time communication and outreach
- **State, PWS, and Laboratory support:**
  - Review and track rule applicability and PWS sampling progress
  - Coordinate Laboratory Approval Program
  - Provide technical support
  - Coordinate outreach
  - Lead compliance assistance

## Extended UCMR Implementation Team

- EPA Office of Ground Water and Drinking Water (OGWDW)
  - Lead organization for direct-implementation of rule
- EPA Regional Offices
  - Coordinate State Partnership Agreements
  - Assist States and PWSs with UCMR requirements, compliance assistance, and enforcement
- Partnering States
  - Support various aspects of implementation based on State-specific interest

## States' Role in the UCMR Program


- Participation by States is voluntary and documented via Partnership Agreements
- States help EPA implement the UCMR program and ensure high data quality
- Partnership Agreement activities can include any or all of the following:
  - Review and revise State Monitoring Plans
  - Provide inventory and contact information for small and large PWSs
  - Review proposed Ground Water Representative Monitoring Plans (GWRMPs)
  - Provide compliance assistance (*e.g.*, notify and instruct systems)
  - Collect samples

UCMR 5 is the highest “partnered” cycle. Thank you for the large amount of State-provided data.

## Small PWS Responsibilities

- PWSs serving 10,000 or fewer people
  - Register for a SDWARS 5 account
  - Complete reporting requirements in SDWARS
  - Collect and ship samples according to the monitoring schedule in SDWARS using the sampling kits and materials provided by EPA

A **sample collection training video** is available for small PWSs on the [UCMR 5 home page](#) that reviews the UCMR 5 sampling kit, sample collection, and packaging and shipping:  
<https://youtu.be/8cHixUTDPgE>

QR Code 



## Large PWS Responsibilities

- PWSs serving more than 10,000 people
  - Responsible for monitoring arrangements, including sample collection, analysis, and payment, unless otherwise directed by their State
  - Register for a SDWARS 5 account
  - Complete reporting requirements in SDWARS 5
  - Collect samples and coordinate sample shipping and analyses with an EPA-approved UCMR 5 laboratory
  - Review and approve results in SDWARS within 30 days of the laboratory posting data
    - Laboratories must post results within 90 days of sample collection
    - If the PWS has not acted upon the results after 30 days, they are considered approved and ready for State and EPA review

## List of Approved Laboratories for UCMR 5

- 61 laboratories have attained EPA approval in one or more of the three UCMR 5 methods
  - 38 approved for all three methods
  - 49 approved for EPA 533
  - 52 approved for EPA 537.1
  - 49 approved for EPA 200.7
- Six of these laboratories are contracted by EPA for analysis of UCMR 5 samples from small PWSs
- The list of approved laboratories and associated methods is posted at: <https://www.epa.gov/dwucmr/list-laboratories-approved-epa-fifth-unregulated-contaminant-monitoring-rule-ucmr-5>
  - If EPA revokes approval, or the laboratory requests to discontinue program participation, it will be removed from the list

| Laboratory Information   | Per. and Poly(brominated) Substances (PFS) |                        | Lithium | Commercial Services |
|--|--|------------------------|---------|---------------------|
|  | EPA 533                                    | EPA 537.1<br>EPA 200.7 |         |                     |
| <b>Accurex Environmental, LLC</b><br>600 South Lenoxy<br>Sibley, OK 74274<br>(405) 252-0300<br>sally.chavez@accurexlab.com           | X  | X                      | X       | X                   |
| <b>Advanced Environmental Laboratories, Inc.</b><br>9610 Princess Palm Avenue<br>Tampa, FL 33610<br>(813) 650-9616                   |  |                        | X       | X                   |
| <b>Advanced Environmental Laboratories, Inc.</b><br>6881 Southeast Parkway<br>Jacksonville, FL 32216<br>(904) 983-9300               | X  | X                      | X       | X                   |
| <b>Alpha Analytical</b><br>207 Faxon Boulevard<br>Marblehead, MA 02548<br>(978) 688-9220   | X  | X                      | X       | X                   |
| <b>ALS Environmental - Holland</b><br>3354 128th Avenue<br>Holland, MI 48424<br>(616) 565-6070<br>lschmitt@als.com                   | X  | X                      | X       | X                   |
| <b>ALS Environmental - Kalamazoo</b><br>1317 South 12th Avenue<br>Kalamazoo, MI 49008<br>(269) 877-7222                              | X  | X                      | X       | X                   |
| <b>American Analytical, Inc.</b><br>2705 Elm Avenue<br>Chattsworth, CA 91311<br>(618) 988-0447                                       | X  | X                      | X       | X                   |
| <b>American Water Control Laboratory</b><br>1115 South Birch Street<br>Bellevue, IL 60209<br>(815) 255-3600<br>lcolson@awcontrol.com | X  | X                      | X       | X                   |

EPA approved the following laboratories after they met the application requirements and Proficiency Testing (PT) criteria for the Laboratory Approval Program (LAP) supporting the fifth cycle of the Unregulated Contaminant Monitoring Rule (UCMR 5). These laboratories can analyze UCMR 5 samples using those methods marked with an "X" next to their names. Any laboratory that withdraws from the LAP or subsequently fails to meet the method and program quality assurance/quality control (QA/QC) requirements will be permanently removed from this list.

Office of Water (605-140) 1/15/2020 Page 1 of 7 December 13, 2022

## SDWARS and UCMR 5 Reporting Requirements

Jillian Toothman, U.S. EPA & Kasey McDonald, U.S. EPA  
 Office of Ground Water and Drinking Water  
 Standards and Risk Management Division  
 Unregulated Contaminant Monitoring Branch

## Overview

- SDWARS 5/Central Data Exchange (CDX) account
- SDWARS 5 PWS role functionality
  - SDWARS 5 resources and email reminders
  - SDWARS 5 site orientation and nominating users for your PWS
  - Reporting requirements: notification letter, inventory, data elements, Zip Codes, shipping address (small PWSs only), and analytical results
  - Viewing and downloading UCMR 5 results
- SDWARS 5 State role functionality
  - Reviewing, querying, and downloading UCMR 5 results

## SDWARS 5

- Safe Drinking Water Accession and Review System (SDWARS) used by PWSs and EPA-approved UCMR 5 laboratories to report results
- Internet-based electronic reporting system that utilizes a secure access portal, the Central Data Exchange (CDX), to access
  - <https://cdx.epa.gov/>
  - <https://www.epa.gov/dwucmr/reporting-requirements-unregulated-contaminant-monitoring-rule-ucmr-5>

### **ALL PWSs MUST LOG IN TO SDWARS 5**

This is EPA's main way of communicating with PWSs regarding deadlines, inventory changes/corrections, sampling reminders, availability of analytical results, etc.

## SDWARS 5/CDX Registration

- EPA sent **all PWSs** participating in UCMR 5 a customer retrieval key (CRK) in 2022 by email (sender [UCMR@epacdx.net](mailto:UCMR@epacdx.net)) or by physical mailing if no email address was available
- States and laboratories approved for UCMR 5 were sent a CRK to allow them access to SDWARS 5
- To register to use the CDX, go to <https://cdx.epa.gov/preregistration/>, enter your CRK, and follow the directions to complete registration
  - If you lost/did not receive a CRK, please contact EPA's implementation contractor, Great Lakes Environmental Center, Inc. (GLEC), at the UCMR Message Center at [UCMR5@glec.com](mailto:UCMR5@glec.com) or 1-800-949-1581
  - If you have CDX/SDWARS 5 registration issues after using your CRK, please contact the CDX Help Desk at [helpdesk@epacdx.net](mailto:helpdesk@epacdx.net) or call 1-888-890-1995

## SDWARS 5 PWS Resources

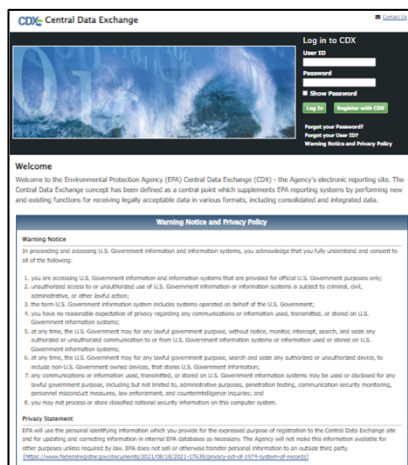
- Information for completing SDWARS 5 registration and PWS activities is available
  - [UCMR 5 Reporting Requirements web page](#)
    - SDWARS 5 demos for the small PWS role ([video](#)) and large PWS role ([video](#)) review CDX registration, accepting notification letters, sampling locations and schedule, adding Zip Codes, and nominating additional users for your PWS
      - Updated demos with recent functionality additions are forthcoming
  - [UCMR Meetings and Materials web page](#)
    - October 2022 PWS webinar presentations and recordings review requirements and actions that PWSs must take to properly prepare for monitoring
      - UCMR 5 Small PWS Implementation ([pdf](#)) ([video](#))
      - UCMR 5 Large PWS Implementation ([pdf](#)) ([video](#))
    - March 2022 Stakeholder Webinar Presentation has Q&A in Appendix 2 ([pdf](#))



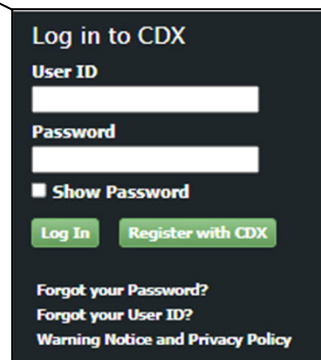
## SDWARS 5 PWS Email Reminders

- SDWARS 5 PWS users will receive automated emails for:
  - Sampling reminders
    - **Small:** Sent on the 1<sup>st</sup> of month of the scheduled sample event
    - **Large:** Sent on the 15<sup>th</sup> of the month prior to the scheduled sample event
  - Data element completion
    - **All:** Sent the month after scheduled sample event if incomplete
      - Small PWSs who completed their data elements prior to their sampling year will receive a reminder to reconfirm or update responses
  - Zip Code completion
    - **All:** Sent on a quarterly basis if incomplete
  - Availability of analytical results
    - **Small:** New results posted by EPA to view/download
    - **Large:** New results posted by laboratory to review/download
  - Missing analytical result reminders
    - **Large only:** Sent if results are missing; PWS needs to input a valid comment for missing results

## Log in to CDX



<https://cdx.epa.gov/>



## Select SDWARS 5

The screenshot shows the EPA CDX Central Data Exchange interface. At the top, there is a navigation bar with links for Home, About, Recent Announcements, Terms and Conditions, FAQ, Help, and Virtual Assistant. Below this is the CDX logo and the text 'Central Data Exchange'. A user is logged in as 'JSHUTSON'. There are several tabs: MyCDX, Inbox, My Profile, Reg Maint, Submission History, and Payment History. The main content area is divided into two columns. The left column is titled 'Services' and contains a table with columns for Status, Program Service Name, and Role. The table has two rows: one for 'UCMR4: Unregulated Contaminants Monitoring Rule 4' with role 'SDWARS4', and one for 'UCMR5: Unregulated Contaminants Monitoring Rule 5' with role 'SDWARS5'. The 'SDWARS5' link is highlighted with a red box, and a red arrow points to it from below. The right column is titled 'CDX Service Availability' and contains a link 'See the status for all program services'. Below that is a 'News and Updates' section with the text 'No news/updates.'

## Small PWS Home Page and Checklist

The screenshot shows the EPA Small PWS Home Page. At the top, there is a navigation bar with links for INVENTORY, SCHEDULE/DATA ELEMENTS, REVIEW DATA, SHIPPING ADDRESSES, ZIP CODES, and CONTACTS. Below this is the 'PWS Home' section with instructions on how to use the site. There is a section for 'Completion Checklist' which is highlighted with a red box. This section contains a table with columns for Reporting Requirement, Status, and Action.

| Reporting Requirement      | Status    | Action                |
|----------------------------|-----------|-----------------------|
| Signed Notification Letter | Is Signed | <a href="#">View</a>  |
| Inventory                  | Has Data  |                       |
| Shipping Address           | Has Data  |                       |
| Zip Codes                  | MISSING   | <a href="#">Enter</a> |
| Data Elements              | MISSING   | <a href="#">View</a>  |

## Large PWS Home Page and Checklist

**PWS Home**

Use the tabs at the top of the page to access [Inventory](#), [Schedule/Data Elements](#), [Review Data](#), [Zip Codes](#), and [Contacts](#)

Use the person icon in the upper right corner to **Nominate User**, view the **Notification Letter**, access the SDWARS 5 Large PWS Walkthrough Video (**Need Help?**), view the **SDWARS 5 Sitemap**, go to **MyCDX**, go to **Inbox** or **Logout**

Use the **Completion Checklist** to view your completion for each of your reporting requirements. The buttons under **Action** will allow you to view your **Signed Notification Letter**, edit **Inventory**, add **Zip Codes** and input **Data Elements**. Once these actions have been completed, use the tabs at the top to navigate between pages.

Click on the blue OMB# to view the PWS Burden Statement.

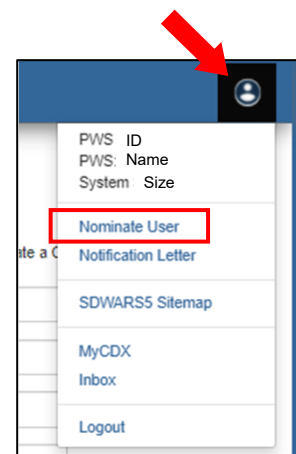
ICR#: 202111-2040-003  
 OMB#: 2040-0304

PWS ID: PWSID  
 PWS Name: PWS Name  
 System Size: large (> 10,000)  
 Monitoring Requirements: AM

| Reporting Requirement      | Status       | Action                |
|----------------------------|--------------|-----------------------|
| Signed Notification Letter | Is Signed    | <a href="#">View</a>  |
| Inventory                  | Has Data     |                       |
| Zip Codes                  | MISSING      | <a href="#">Enter</a> |
| Data Elements              | None missing |                       |

## Nominate User for Your PWS (optional)

- You may nominate other individuals to serve as representatives for your PWS using the **Nominate User** function by selecting your account/person icon in the upper right-hand corner
- A new CRK letter will be generated and emailed to the nominee for use in establishing their own account



# Reporting Data Elements

40 CFR 141.35(e)

| Data Elements Reviewed by PWS Before Sampling Begins | Data Elements Reported by PWS at Each Sample Collection   |
|--|---|
| 1. Public Water System Identification (PWSID) Code   | 10. Disinfectant Type   |
| 2. Public Water System Name                          | 11. Treatment Information   |
| 3. Public Water System Facility Identification Code  | 26. Historical Information for Contaminant Detections and Treatment   |
| 4. Public Water System Facility Name                 | 27. Potential PFAS Sources*   |
| 5. Public Water System Facility Type                 | *EPA is not asking for a formal, in-depth, source water evaluation for Data Element 27. EPA recognizes that the response requires judgement and that some PWSs will have more complete information than others. EPA's <a href="https://awsedap.epa.gov/public/extensions/PFAS_Tools/PFAS_Tools.html">PFAS Analytic Tools</a> can serve as a starting point for PWSs to answer this question and are available at: <a href="https://awsedap.epa.gov/public/extensions/PFAS_Tools/PFAS_Tools.html">https://awsedap.epa.gov/public/extensions/PFAS_Tools/PFAS_Tools.html</a> |
| 6. Water Source Type                                 |   |
| 7. Sampling Point Identification Code                |   |
| 8. Sampling Point Name                               |   |
| 9. Sampling Point Type Code                          |   |

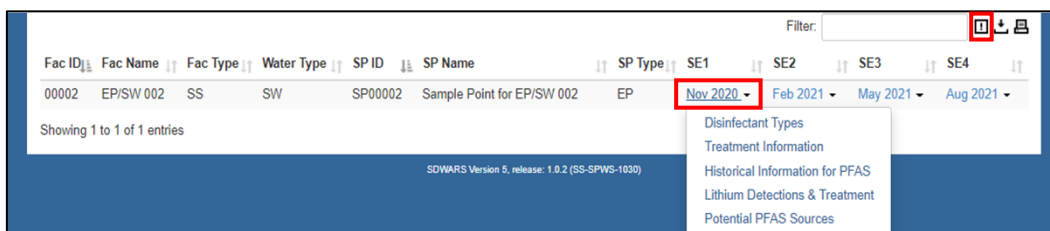
- Data elements 12-25 are reported by the laboratory and are not shown in the table above
- Small PWSs will confirm or update their responses to data elements 10, 11, 26, and 27 in SDWARS at each sample collection
- Large PWSs will select responses to data elements 10, 11, 26, and 27 in SDWARS at each sample collection
- If you have questions or need assistance providing the data elements listed above, please contact the UCMR Message Center at [UCMR5@glec.com](mailto:UCMR5@glec.com) or 1-800-949-1581



Office of Water

Slide 37 of 96

## Select Responses for UCMR 5 Data Elements



- Data Elements can be found on your **Schedule** page by clicking on the drop-down menu on the **SE Month Year** (*i.e.*, Jan 2023) for each sampling location
- The **exclamation point** button next to the Filter search box will highlight the SEs where one or more Data Element responses are missing
- Select appropriate responses for **Disinfectant Type**, **Treatment Information**, **Historical Information for PFAS/Lithium Detections and Treatment**, and **Potential PFAS Sources**
- To select the same response for other SEs for that location, select the Data Element for the SE you want to complete, and a question will prompt you to select a response from another SE



Office of Water

Slide 38 of 96

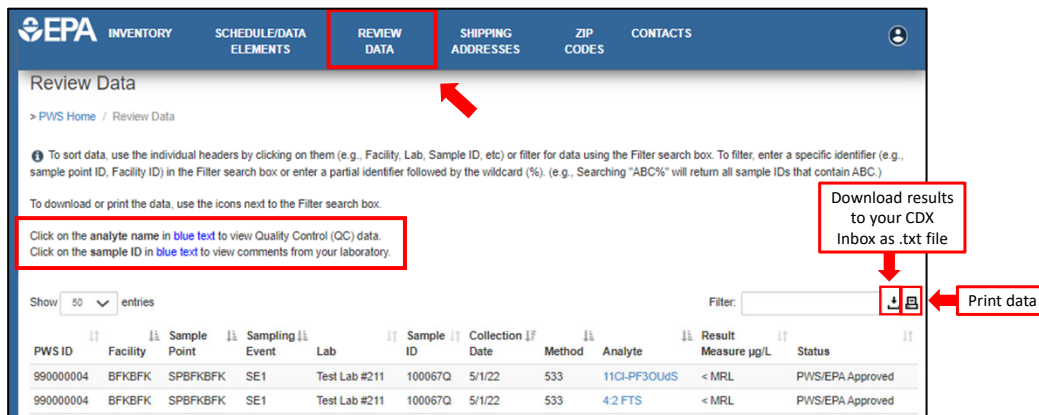
# Reporting Analytical Results

## 40 CFR 141.35

- SDWARS 5 **PWS users** will get an **automated email notification** when analytical results are posted
- Small PWS Analytical results
  - Per contracts with EPA, laboratories post results to SDWARS within 60 days of sample collection
  - EPA will review results, pay the laboratory, and approve the small PWS data
    - Results then become viewable in SDWARS to PWS, State, and others in EPA
- Large PWS Analytical results
  - Posted to SDWARS by the large PWS’s contracted laboratory **within 90 days** from the sample collection date
    - The large PWS is responsible for ensuring their laboratory posts the results to SDWARS in this time
  - Large PWS has an opportunity to review and approve/reject data in SDWARS **within 30 days** from when the laboratory posts the data
    - Following PWS approval, or expiration of the 30-day optional review period, the results become viewable in SDWARS for State and EPA review

# Small PWS: View/Download Results from SDWARS

- Reported values equal to or greater than the UCMR 5 MRLs are displayed in micrograms per liter (µg/L)
- Results below the UCMR 5 MRL are shown as “< MRL”



Review Data

> PWS Home / Review Data

To sort data, use the individual headers by clicking on them (e.g., Facility, Lab, Sample ID, etc) or filter for data using the Filter search box. To filter, enter a specific identifier (e.g., sample point ID, Facility ID) in the Filter search box or enter a partial identifier followed by the wildcard (%). (e.g., Searching "ABC%" will return all sample IDs that contain ABC.)

To download or print the data, use the icons next to the Filter search box.

Click on the analyte name in blue text to view Quality Control (QC) data.  
Click on the sample ID in blue text to view comments from your laboratory.

Show 50 entries Filter:

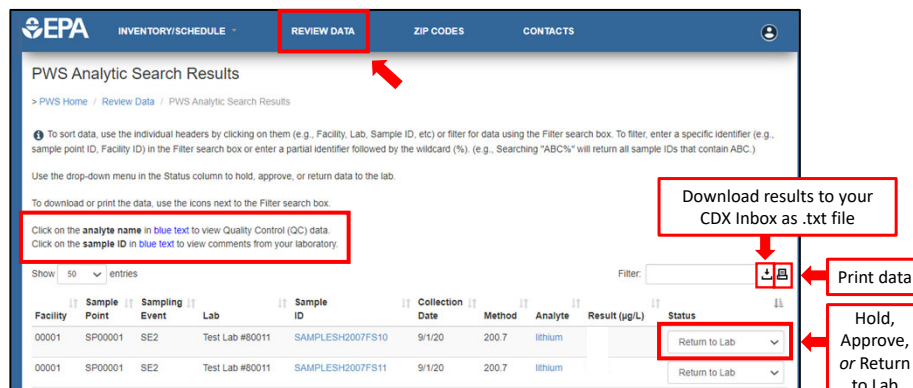
| PWS ID    | Facility | Sample Point | Sampling Event | Lab           | Sample ID | Collection Date | Method | Analyte      | Result Measure µg/L | Status           |
|-----------|----------|--------------|----------------|---------------|-----------|-----------------|--------|--------------|---------------------|------------------|
| 990000004 | BFKBKF   | SPBFBKF      | SE1            | Test Lab #211 | 100067Q   | 5/1/22          | 533    | 11Cl-PF3OUdS | < MRL               | PWS/EPA Approved |
| 990000004 | BFKBKF   | SPBFBKF      | SE1            | Test Lab #211 | 100067Q   | 5/1/22          | 533    | 4:2 FTS      | < MRL               | PWS/EPA Approved |

## Small PWS Partial Datasets

- If resampling has taken place and analysis is in process, small PWS sample results for all 29 UCMR 5 PFAS analytes may not be posted to SDWARS at the same time
  - The small PWS will still receive an automated email notification each time new results are posted
- If multiple resampling actions have taken place and the resample window has closed (*e.g.*, it is time for the next sample event), or an issue at the laboratory precludes successful analysis, some data may not be reported
- For additional information, please refer to your UCMR 5 results in SDWARS

## Large PWS: Review/Download Results from SDWARS

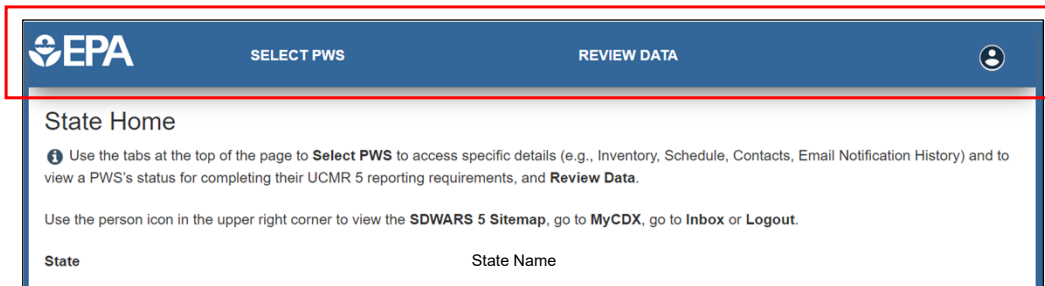
- **Review Data:** Search results by sample kit ID, sampling event, collection date, method, analyte, results above the UCMR 5 MRL (*i.e.*, “occurrences”), occurrences above a specific concentration, or analytic result status



The screenshot shows the 'PWS Analytic Search Results' interface. At the top, there are navigation tabs: 'INVENTORY/SCHEDULE', 'REVIEW DATA' (highlighted in red), 'ZIP CODES', and 'CONTACTS'. Below the tabs, there are instructions on how to sort and filter data. A table displays search results for Lithium. The table has columns for Facility, Sample Point, Sampling Event, Lab, Sample ID, Collection Date, Method, Analyte, Result (µg/L), and Status. Two rows of data are visible. The 'Status' column for both rows has a dropdown menu with 'Return to Lab' selected. Annotations with red boxes and arrows point to specific features: 'Download results to your CDX Inbox as .txt file' points to a download icon; 'Print data' points to a print icon; and 'Hold, Approve, or Return to Lab' points to the dropdown menu in the 'Status' column.

When selecting the “Return to Lab” option, the large PWS should enter a “Reason for Return”

## State Role Functionality



- **Select PWS:** Search PWSs by size or PWSID to view inventory, schedule, contacts, and reporting completion status
- **Review Data:** Search results by sample kit ID, PWS size, method, analyte, sampling event, collection date, results above the UCMR 5 MRL (i.e., “occurrences”), occurrences above a specific concentration, or analytic result status (e.g., PWS Approve/State Hold)

## State: Review/Download PWS Results from SDWARS

The screenshot shows the 'State Analytic Search Results' page. It includes a table with columns for PWS ID, Facility, Sample Point, Sampling Event, Lab, Sample ID, Collection Date, Method, Analyte, Result (µg/L), and Status. Annotations with red boxes and arrows point to specific features: 'Download results to your CDX Inbox as .txt file' points to a download icon; 'Print data' points to a print icon; 'Reviewed or Hold' points to a dropdown menu in the Status column. A red box highlights the text: 'Click on the analyte name in blue text to view Quality Control (QC) data. Click on the sample ID in blue text to view comments from your laboratory.'

| PWS ID    | Facility | Sample Point | Sampling Event | Lab           | Sample ID | Collection Date | Method | Analyte     | Result (µg/L) | Status   |
|-----------|----------|--------------|----------------|---------------|-----------|-----------------|--------|-------------|---------------|----------|
| 998000232 | 00001    | 0001         | SE1            | Test Lab #232 | 100177R   | 7/31/22         | 533    | 11C-PF30UdS | < MRL         | Reviewed |
| 998000232 | 00001    | 0001         | SE1            | Test Lab #232 | 100177R   | 7/31/22         | 533    | 4:2 FTS     | < MRL         | Hold     |

State users can mark the “Status” of each PWS result as “Reviewed” or “Hold” and sort results accordingly

## All Roles: View Quality Control Data

- Hover over the QC Type code and the definition will appear

Quality Control Results

Abbreviations in front of Analyte Names correspond to: IS - Internal Standard, Surr - Surrogate, IDA - Isotope Dilution Analogues.

Show 50 entries Filter:

| QC Type | Analysis Date | Analyte Name | Recovery | Units | Acceptance Range (%) |
|---------|---------------|--------------|----------|-------|----------------------|
| CCCH    | 5/3/2022      | 11Cl-PF3OUdS | 110      | %     | 69.5-130.5           |
| CCCL    | 5/3/2022      | 11Cl-PF3OUdS | 105      | %     | 49.5-150.5           |
| CCCM    | 5/3/2022      | 11Cl-PF3OUdS | 97       | %     | 69.5-130.5           |
| FRB     | 5/3/2022      | 11Cl-PF3OUdS | 0.0006   | µg/L  | NA                   |
| LFB     | 5/3/2022      | 11Cl-PF3OUdS | 105      | %     | 49.5-150.5           |
| LRB     | 5/3/2022      | 11Cl-PF3OUdS | <0.0017  | µg/L  | NA                   |

Showing 1 to 6 of 6 entries Previous 1 Next

## Download Results from SDWARS

- After submitting a download request in SDWARS, you will receive an automated email notice when the results are available for download
  - Go to your CDX Inbox via your account/person icon to download the result .txt file





## Break (15 minutes)



## PWS-Specific Questions about UCMR 5

- If you have detailed questions that apply to your **specific PWS**, contact one of the following:
  - UCMR Message Center ([UCMR5@glec.com](mailto:UCMR5@glec.com) or 1-800-949-1581)
    - **Small PWS** sampling location and schedule changes, applicability (e.g., PWS merged with another PWS(s), size category has changed, source water has changed)
    - **Large and small PWS** general questions about requirements or navigating EPA's reporting system (SDWARS)
  - [UCMR@glec.com](mailto:UCMR@glec.com)
    - **Small PWS** immediate assistance on sampling, sampling kits, shipping
  - [UCMR\\_Sampling\\_Coordinator@epa.gov](mailto:UCMR_Sampling_Coordinator@epa.gov)
    - **Large PWS** sampling location and schedule changes, applicability, representative monitoring, etc.

# UCMR 5 Contaminants and Health-Based Reference Value Information

Kelsey Dailey, U.S. EPA  
Office of Ground Water and Drinking Water  
Standards and Risk Management Division  
Unregulated Contaminant Monitoring Branch



Office of Water

Slide 49 of 96

## Overview

- The “Health-Based Reference Values (HBRVs) for UCMR 5” document recently published by EPA addresses:
  - Minimum reporting levels (MRLs)
  - EPA lifetime health advisories (HAs) for PFAS in drinking water
  - Health reference level (HRL) for lithium



Office of Water

Slide 50 of 96

## “Health-Based Reference Values” Document

- The purpose of this document is to provide context around UCMR 5 results in relation to EPA established minimum reporting levels (MRLs) and, if available, health-based reference values, or “HBRVs” (*i.e.*, reference concentrations and reference doses [RfDs])
- It is considered a “**living document**” that will be routinely updated as new health-based information becomes available
  - EPA will soon propose a National Primary Drinking Water Regulation (NPDWR) for PFAS; the Agency is using the 2022 EPA lifetime health advisory (HA) levels for PFAS in drinking water as “**reference concentrations**” for UCMR 5 and will update the values when the **final NPDWR** is promulgated
- UCMR is an occurrence study and EPA often does not have full knowledge of the health effects for these unregulated contaminants

The document “Health-Based Reference Values for UCMR 5” is publicly available at:  
<https://www.epa.gov/dwucmr/health-based-reference-values-fifth-unregulated-contaminant-monitoring-rule>

## UCMR 5 Minimum Reporting Levels (MRLs)

- Calculated using analytical data from multiple laboratories that participate in EPA’s MRL-setting studies
- The goal of the MRL approach is to create a consistent, high-quality UCMR dataset using results reported by many laboratories across the country
- MRLs are the lowest concentrations that laboratories may report to EPA during UCMR 5 monitoring
- MRLs are **not associated** with contaminant health effects information
- Some MRLs are below lifetime HA levels for PFAS (*e.g.*, PFBS, Gen X chemicals) and others are above (*e.g.*, PFOS, PFOA)

## Health-Based Reference Values (HBRVs)

- Depending on the available health and toxicological information for a UCMR 5 contaminant, a reference concentration (*e.g.*, a lifetime HA level, health reference level [HRL]) in drinking water may be available
  - The current reference concentrations are derived using a reference dose (RfD) (*i.e.*, a non-cancer endpoint) and additional assumptions about body weight and drinking water intake
- Do not represent regulatory limits or action levels and should not be interpreted as an indication of future Agency actions
- Developed with varying degrees of certainty and for different purposes/applications (*e.g.*, screening value, superfund sites, drinking water applications)

## Health-Based Reference Values (HBRVs)

- Compiled from the following publicly available resources:
  - [Drinking Water Health Advisories \(HAs\)](#)
  - [Integrated Risk Information System \(IRIS\) Assessments](#)
  - [Technical Support Document for the Final Fifth Contaminant Candidate List \(CCL 5\) Contaminant Information Sheets](#)
    - [Provisional Peer-Reviewed Toxicity Values \(PPRTVs\)](#)
  - [Agency for Toxic Substances and Disease Registry \(ATSDR\) Toxicological Profiles](#)

# Lithium

| Contaminant<br>[note: to convert to ng/L or parts per trillion (ppt), please multiply by 1,000] | MRL<br>(µg/ L) | Health Based Reference Values  |   | Reference(s)   |
|---|----------------|--------------------------------|---|--|
|   |                | Reference Concentration (µg/L) | RfD (mg/kg day)   |  |
| lithium   | 9              | 10                             | Subchronic and Chronic Provisional RfD = $2 \times 10^{-3}$ | <a href="#">Technical Support Document for the Final CCL 5 - Contaminant Information Sheets (2022)</a> |

- Lithium is on EPA’s CCL 5, a priority list of drinking water contaminants that may require future regulation under SDWA
- Available data for lithium demonstrated a relatively high occurrence above the health reference level (HRL) compared to other contaminant candidates, supporting the inclusion of lithium on CCL 5 and in UCMR 5 monitoring


## CCL 5 Health Reference Level (HRL) for Lithium

- The CCL program derives HRLs for screening purposes using available data
  - HRLs are not final determinations about the level of a contaminant in drinking water that is necessary to protect any particular population and, in some cases, are derived prior to development of a complete exposure assessment
- During its development of CCL 5, EPA derived an HRL for lithium in drinking water of 10 µg/L, based upon [EPA’s 2008 Provisional Peer-Reviewed Toxicity Value \(PPRTV\)](#) assessment
  - The provisional RfD is based on adverse health effects at therapeutic doses which are much higher than estimated average intake from drinking water or dietary sources
  - At the time of publication of the PPRTV assessment, research had not addressed the health effects of lithium at average environmental intake levels
    - The CCL 5 Rapid Systematic Review of literature (conducted October 2019) identified 46 animal toxicological and 189 human epidemiological studies potentially relevant to lithium; these studies may provide information related to quantifying dose-response relationships between lithium exposure and adverse health effects, but further evaluation is needed

## EPA Lifetime Health Advisories (HAs) for PFAS

| Contaminant<br>[note: to convert to ng/L or parts per trillion (ppt), please multiply by 1,000] | MRL<br>(µg/L) | Health Based Reference Values  |                                    | Reference(s)  |
|---|---------------|--------------------------------|------------------------------------|---|
|   |               | Reference Concentration (µg/L) | RfD (mg/kg day)                    |   |
| hexafluoropropylene oxide dimer acid (HFPO-DA) (GenX)   | 0.005         | 0.01                           | Chronic RfD = $3 \times 10^{-6}$   | <a href="#">Drinking Water HA: Hexafluoropropylene Oxide (HFPO) Dimer Acid and HFPO Dimer Acid Ammonium Salt, Also Known as "GenX Chemicals" (2022)</a> |
| perfluorobutanesulfonic acid (PFBS)   | 0.003         | 2                              | Chronic RfD = $3 \times 10^{-4}$   | <a href="#">Drinking Water HA: Perfluorobutane Sulfonic Acid and Related Compound Potassium Perfluorobutane Sulfonate (2022)</a>                        |
| perfluorooctanesulfonic acid (PFOS) <sup>1</sup>  | 0.004         | 0.00002                        | Chronic RfD = $7.9 \times 10^{-9}$ | <a href="#">INTERIM Drinking Water HA: Perfluorooctane Sulfonic Acid (PFOS) (2022)</a>  |
| perfluorooctanoic acid (PFOA) <sup>1</sup>  | 0.004         | 0.000004                       | Chronic RfD = $1.5 \times 10^{-9}$ | <a href="#">INTERIM Drinking Water HA: Perfluorooctanoic Acid (PFOA) (2022)</a>   |

<sup>1</sup> Has an available ATSDR Minimal Risk Level ([Toxicological Profile for Perfluoroalkyls, 2021](#))



United States Environmental Protection Agency

Office of Water

Slide 57 of 96

## EPA Lifetime Health Advisories (HAs) for PFAS

- Lifetime HAs are designed to protect all people, including sensitive populations and life stages, from adverse health effects resulting from exposure throughout their lives to contaminants in drinking water
  - Calculated to offer a margin of protection against adverse health effects
  - Take into account other potential sources of exposure (e.g., food, air, consumer products)
  - Establish levels at or below which no adverse effects are expected
- HAs are non-enforceable and non-regulatory
  - Provide technical information to PWSs, States, and public officials on health effects, analytical methods, and treatment technologies
  - States may have their own advisory levels or regulations for PFAS that PWSs will need to be aware of

## EPA Lifetime Health Advisories (HAs) for PFAS

- For more information on the 2022 interim (PFOA, PFOS) and final (GenX chemicals, PFBS) lifetime HAs, please visit <https://www.epa.gov/sdwa/drinking-water-health-advisories-has>
- Also see:
  - Drinking Water HAs for PFAS **Fact Sheet for Communities** ([pdf](#))
  - Drinking Water HAs for PFAS **Fact Sheet for Public Water Systems** ([pdf](#))
  - Questions and Answers: Drinking Water HAs for PFOA, PFOS, GenX Chemicals, and PFBS ([web](#))
  - Technical Fact Sheet: Drinking Water HAs for Four PFAS (PFOA, PFOS, GenX Chemicals, and PFBS) ([pdf](#))

## PFAS with Final or In Process Reference Doses

| Contaminant<br>[note: to convert to ng/L or parts per trillion (ppt), please multiply by 1,000] | MRL<br>(µg/L) | Health Based Reference Values     |   | Reference(s)  |
|---|---------------|-----------------------------------|---|---|
|   |               | Reference Concentration<br>(µg/L) | RfD<br>(mg/kg day)  |   |
| perfluorobutanoic acid (PFBA)   | 0.005         | -                                 | Chronic RfD = $1 \times 10^{-3}$<br>Subchronic RfD = $6 \times 10^{-3}$ | <a href="#">Integrated Risk Information System (IRIS) Assessment (2022)</a>           |
| perfluorodecanoic acid (PFDA)   | 0.003         | -                                 | -   | <a href="#">IN PROCESS/DRAFT Integrated Risk Information System (IRIS) Assessment</a> |
| perfluorohexanesulfonic acid (PFHxS) <sup>1</sup>   | 0.003         | -                                 | ATSDR: Minimal Risk Level = $2 \times 10^{-5}$ (intermediate duration)  | <a href="#">ATSDR Toxicological Profile for Perfluoroalkyls (2021)</a>                |
| perfluorohexanoic acid (PFHxA) <sup>2</sup>   | 0.003         | -                                 | -   | <a href="#">IN PROCESS/DRAFT Integrated Risk Information System (IRIS) Assessment</a> |
| perfluorononanoic acid (PFNA) <sup>1,2</sup>  | 0.004         | -                                 | ATSDR: Minimal Risk Level = $3 \times 10^{-6}$ (intermediate duration)  | <a href="#">ATSDR Toxicological Profile for Perfluoroalkyls (2021)</a>                |

<sup>1</sup> In process/draft EPA IRIS assessments for [PFHxS](#) and [PFNA](#)

<sup>2</sup> MRLs for PFHxA and PFNA were incorrect in the February 2023 webinar presentations and the PDF that was sent to registrants prior to the webinars

## UCMR 5 PFAS without HBRVs

### Contaminant

|  |
|--|
| 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUds) |
| 1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)             |
| 1H, 1H, 2H, 2H-perfluorohexane sulfonic acid (4:2 FTS)             |
| 1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)             |
| 4,8-dioxa-3H-perfluorononanoic acid (ADONA)                        |
| 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)      |
| nonafluoro-3,6-dioxaheptanoic acid (NFDHA)                         |
| perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)                  |
| perfluoro-3-methoxypropanoic acid (PFMPA)                          |
| perfluoro-4-methoxybutanoic acid (PFMBA)                           |
| perfluorododecanoic acid (PFDoA)                                   |
| perfluoroheptanesulfonic acid (PFHpS)                              |
| perfluoroheptanoic acid (PFHpA)                                    |
| perfluoropentanesulfonic acid (PFPeS)                              |
| perfluoropentanoic acid (PFPeA)                                    |
| perfluoroundecanoic acid (PFUnA)                                   |
| n-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)           |
| n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)          |
| perfluorotetradecanoic acid (PFTA)                                 |
| perfluorotridecanoic acid (PFTDA)                                  |



Office of Water

Slide 61 of 96

## Stakeholder Access to UCMR Data

Kelsey Dailey, U.S. EPA  
 Office of Ground Water and Drinking Water  
 Standards and Risk Management Division  
 Unregulated Contaminant Monitoring Branch



Office of Water

Slide 62 of 96



## Overview

- PWS and State access to small PWS results
  - Routine availability of EPA-reviewed results (via SDWARS)
  - Early availability for States of preliminary UCMR 5 PFAS results above HA levels
- PWS, State, and EPA access to large PWS results (via SDWARS)
- Public access to PWS results
  - UCMR 5 web page and National Contaminant Occurrence Database (NCOD)
  - EPA's quarterly Data Summary
- Other consumer access to PWS results
  - Consumer Confidence Reports (CCRs)
  - Public Notification requirements

## PWS and State Access to Small PWS Results: Routine Availability of EPA-Reviewed Results (via SDWARS)

- **Small PWS Users with Active SDWARS Accounts**
  - Will receive an **automated email notification each time** UCMR 5 results are posted for their PWS
  - Small PWSs that sample in January/February 2023 may begin receiving their UCMR 5 results in SDWARS as early as March/April 2023
- **State Users with Active SDWARS Accounts**
  - Will not receive notices each time results are posted for a PWS in their State
  - Can access and search the results in SDWARS as often as they want

## Additional State Access to Small PWS Results: Early Availability of Preliminary UCMR 5 PFAS Results Above HA Levels

- EPA established contracts with laboratories to analyze UCMR 5 samples from small PWSs (*i.e.*, EPA pays for sample analyses and shipping) and receives the laboratory-approved **preliminary** results
- EPA will provide States with **preliminary UCMR 5 PFAS results above an EPA HA level** before results are available in SDWARS and encourages the sharing of this early information with the small PWSs
  - EPA's strategy for communicating preliminary results from small PWSs is intended to work in conjunction with State information and will be updated as new information becomes available
  - **It is still important for States to have an active SDWARS account** to view all PWS results, inventory, sampling schedules, and receive direct communications from EPA

Large PWSs contract directly with laboratories to analyze their UCMR 5 samples and have access to their results prior to EPA. Large PWSs can also make arrangements with their contracted laboratory for “early” notification (*i.e.*, before their laboratory posts the results to SDWARS).



Office of Water

Slide 65 of 96

## Example Sample Report for States

- **Highlighted** information will be pre-populated by EPA
- Preliminary laboratory-approved results in the report will be presented in both  $\mu\text{g/L}$ , or parts per billion (ppb), and  $\text{ng/L}$ , or parts per trillion (ppt)
- **Preliminary results in sample reports sent to the States should be compared to the results in SDWARS when available**

The sample was collected on [SampleCollectionDate] from Facility [FacilityID] [FacilityName] / Sample Point [SamplePointID] [SamplePointName] location for sample event [SampleEvent]. EPA's UCMR 5 small PWS contract laboratory identified the following concentrations for the four PFAS with EPA HAs:

| PFAS (EPA Method 533)    | Preliminary Sample Result |                     | EPA Lifetime Health Advisory Level (ppt) | UCMR 5 MRL (ppt) |
|--------------------------|---------------------------|---------------------|--|------------------|
|                          | $\mu\text{g/L}$ , ppb     | $\text{ng/L}$ , ppt |  |                  |
| PFOA                     | [ResultMeasure]           | [Result*1000]       | 0.004 (interim)                          | 4                |
| PFOS                     | [ResultMeasure]           | [Result*1000]       | 0.02 (interim)                           | 4                |
| HFPO-DA (GenX chemicals) | [ResultMeasure]           | [Result*1000]       | 10 (final)                               | 5                |
| PFBS                     | [ResultMeasure]           | [Result*1000]       | 2,000 (final)                            | 3                |

$\mu\text{g/L}$  = parts per billion (ppb)      To convert ppb to ppt, multiply value by 1,000  
 $\text{ng/L}$  = parts per trillion (ppt)      UCMR 5 MRL = Minimum Reporting Level

Information from prior UCMR 5 sample events that yielded PFAS results above an EPA HA is provided below, as appropriate. Available preliminary results for the 29 UCMR 5 PFAS are provided in the following report.

| UCMR 5 Early Notification Record for PWS [PWSID] |               |               |                          |                   |
|--|---------------|---------------|--------------------------|-------------------|
| Notification Date                                | Sample Kit ID | Sample Event  | Sample Point ID and Name |                   |
| [MonthYear]                                      | [SampleID]    | [SampleEvent] | [SamplePointID]          | [SamplePointName] |

The Fifth Unregulated Contaminant Monitoring Rule (UCMR 5)  
Early Notification for Small PWS PFAS Results Above an EPA Health Advisory

| PWS ID (PWSID)  | CAHRI       | Preliminary Sample Result                 | UCMR 5 MRL          |
|---|-------------|---|---------------------|
| PFAS  |             | $\mu\text{g/L}$ , ppb                     | $\text{ng/L}$ , ppt |
| <b>UCMR 5 Method 533</b>  |             |   |                     |
| PFOA  | 335-87-1    | [ResultMeasure]                           | [Result*1000]       |
| PFOS  | 1769-23-1   | [ResultMeasure]                           | [Result*1000]       |
| HFPO-DA (GenX chemicals)  | 11525-13-6  | [ResultMeasure]                           | [Result*1000]       |
| PFBS  | 375-73-5    | [ResultMeasure]                           | [Result*1000]       |
| 1,1,1-TRICHLOROETHANE   | 763051-82-9 | [ResultMeasure]                           | [Result*1000]       |
| 2,2,4-TRIFLUOROBUTANE   | 39208-34-4  | [ResultMeasure]                           | [Result*1000]       |
| 2,2,6,6-TETRAFLUOROBUTANE   | 75214-32-4  | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROOCTANOIC ACID  | 27619-87-2  | [ResultMeasure]                           | [Result*1000]       |
| PERFLUORONONANOIC ACID  | 92905-10-4  | [ResultMeasure]                           | [Result*1000]       |
| PERFLUORODECANOIC ACID  | 756426-58-1 | [ResultMeasure]                           | [Result*1000]       |
| PERFLUORODODECANOIC ACID  | 15173-59-6  | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROTETRADECANOIC ACID   | 115577-82-7 | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROPALMITIC ACID  | 15377-79-1  | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROSTEARIC ACID   | 86390-89-5  | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROOCTYL SULFONATE  | 375-24-4    | [ResultMeasure]                           | [Result*1000]       |
| PERFLUORONONYL SULFONATE  | 335-74-2    | [ResultMeasure]                           | [Result*1000]       |
| PERFLUORODECYL SULFONATE  | 302-85-1    | [ResultMeasure]                           | [Result*1000]       |
| PERFLUORODODECYL SULFONATE  | 375-28-8    | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROTETRADECYL SULFONATE   | 375-85-9    | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROPALMITYL SULFONATE   | 355-46-4    | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROSTEARYL SULFONATE  | 307-24-4    | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROOCTYL SULFONATE  | 375-24-4    | [ResultMeasure]                           | [Result*1000]       |
| PERFLUORONONYL SULFONATE  | 375-24-4    | [ResultMeasure]                           | [Result*1000]       |
| PERFLUORODECYL SULFONATE  | 2706-91-4   | [ResultMeasure]                           | [Result*1000]       |
| PERFLUORODODECYL SULFONATE  | 2706-90-9   | [ResultMeasure]                           | [Result*1000]       |
| PERFLUOROTETRADECYL SULFONATE   | 2058-84-8   | [ResultMeasure]                           | [Result*1000]       |
| <b>UCMR 5 Method 533.1</b>  |             |   |                     |
| PERCLOA   | 2991-50-6   | [ResultMeasure]                           | [Result*1000]       |
| PERCLOA   | 2359-41-9   | [ResultMeasure]                           | [Result*1000]       |
| PFPA  | 376-06-7    | [ResultMeasure]                           | [Result*1000]       |
| PFCEA   | 72529-84-8  | [ResultMeasure]                           | [Result*1000]       |
| CAHRI - Chemical Abstracts Services Registry Number                   |             | $\mu\text{g/L}$ = parts per billion (ppb) |                     |
| To convert $\mu\text{g/L}$ to $\text{ng/L}$ , multiply value by 1,000 |             | $\text{ng/L}$ = parts per trillion (ppt)  |                     |



Office of Water

Slide 66 of 96

## Example of Small PWS Notification for States

- EPA anticipates that States will have different approaches towards UCMR 5 PFAS results due to varying State-specific guidance and requirements
- EPA has an example notification available for States to use that provides:
  - Areas to **[insert]** State-specific information, as well as preliminary small PWS PFAS results (available in the pre-populated sample reports)
  - Details on “Next Steps” and links to EPA and Stakeholder resources discussed in this webinar

[OPTIONAL INCLUSION: Summarize initial State thoughts and considerations on any additional action that may be warranted or State enforceable standards or action levels for certain PFAS.]

| PFAS  | MRL <sup>1</sup> (ppt) | EPA Lifetime Health Advisory Level (ppt) | Preliminary Sample Results for [Sample ID], [Sample Collection Date] (ppt) <sup>2</sup> | Preliminary Sample Results for [Sample ID], [Sample Collection Date] (ppt) <sup>2</sup> (not or remove) | Preliminary Sample Results for [Sample ID], [Sample Collection Date] (ppt) <sup>2</sup> (not or remove) |
|---|------------------------|--|---|---|---|
| perfluorooctanoic acid (PFOA)                                   | 4                      | 0.004 (interim)                          |   |   |   |
| perfluorooctanesulfonic acid (PFOS)                             | 4                      | 0.02 (interim)                           |   |   |   |
| hexafluoropropylene oxide dimer acid (HFPO-DA) (GenX chemicals) | 5                      | 10 (final)                               |   |   |   |
| perfluorobutanesulfonic acid (PFBS)                             | 3                      | 2,000 (final)                            |   |   |   |

<sup>1</sup>MRL = Minimum Reporting Level, lowest concentration that can reliably be measured for UCMR 5. Where the lifetime HA level is lower than the UCMR 5 MRL (i.e., PFOA, PFOS), EPA is providing notification for results equal to or greater than the MRL.

<sup>2</sup>ppt = parts per trillion (ppt). To convert to ppt, multiply µg/L (ppb) results in SDWARS by 1,000 to get ppt.

[OPTIONAL INCLUSION: An additional 25 PFAS (i.e., PFAS without HAs) were part of the scope of UCMR 5 monitoring. Available results for those PFAS can be found in the report(s) sent to the State and included in the communication to the PWS if desired.]

## Overview of PWS and State Access to Small PWS Results

EPA

- OGWDW emails EPA Region preliminary PFAS results above an HA level in a report for each State on a monthly basis (possibly starting in March 2023 depending on the data received)
- Region provides State with preliminary reports and supplemental resources

State

- Shares preliminary report(s) from EPA and/or populated template with the small PWS, as appropriate (PWS is automatically notified via SDWARS when EPA-reviewed results are available)
- Accesses EPA-reviewed results via an active SDWARS account

Small PWS

- Receives an early notification via State about preliminary PFAS results above HA levels, as appropriate
- Receives real-time notification via SDWARS about EPA-reviewed results

## PWS, State, and EPA Access to Large PWS Results (via SDWARS)

- **Large PWS Users with Active SDWARS Accounts**
  - Will receive an **automated email notification each time** UCMR 5 results are posted by their contracted laboratory
  - Have up to 30 days to review and approve results prior to State and EPA access
- **EPA and State Users with Active SDWARS Accounts**
  - Will not receive notices each time results are posted for a PWS in their State
  - Can access and search the results in SDWARS as often as they want

## Public Access to Results from Small and Large PWSs

- **Public Access**
  - Starting mid-2023, EPA will update the National Contaminant Occurrence Database (NCOD) with UCMR 5 results and publish a “Data Summary” **approximately quarterly** at the web page shown below
  - The Data Summary will include the NCOD results at a national level (*e.g.*, the number of PWSs with results above the MRL and above HBRVs)
  - The initial Health-Based Reference Values document (see slide 51) will be incorporated into the quarterly UCMR 5 Data Summary

National occurrence data are publicly available at:

<https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule>

## Other Consumer Access to Results: Consumer Confidence Reports (CCRs)

- Annual Consumer Confidence Reports (CCRs)
  - Required by [40 CFR 141.153\(d\)\(7\)](#) for **community water systems (CWSs)**
    - For required unregulated contaminant monitoring: the CCR table(s) must contain the average and range at which the contaminant was **found** (*i.e.*, measured  $\geq$  the UCMR MRL)
    - The report may include a brief explanation of the reasons for monitoring for unregulated contaminants
      - Example language: Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted
  - EPA's [CCR Compliance Help web page](#) provides guidance and tools for CWSs
  - Water Research Foundation's UCMR 5 Toolkit includes CCR guidance and example language (see slide 80)
  - **CWSs are responsible for being aware of and complying with their State's requirements, if any**

For additional information:

<https://www.epa.gov/ccr>

## Other Consumer Access to Results: Public Notifications

- Public Notification (PN)
  - Required by [40 CFR 141.207](#) for **all PWSs** (*i.e.*, CWSs and NTNCWSs) subject to UCMR
    - PWS must notify people served of the availability of **all** UCMR results no later than 12 months after they are known
    - Follows Tier 3 PN prescribed in [40 CFR 141.204](#) (c), (d)(1), and (d)(3)
    - Special notice requirement must identify a person and the telephone number to contact for information on the unregulated contaminant monitoring results
  - CWSs may include their public notice within their CCRs if timing and delivery requirements are met
  - EPA's [PN Compliance Help web page](#) has resources for PWSs including a handbook and [Tier 3 PN template](#)
  - **PWSs are responsible for being aware of and complying with their State's requirements, if any**

For additional information:

<https://www.epa.gov/dwreginfo/public-notification-rule>

# Risk Communication Resources for UCMR 5 Contaminants in Drinking Water

Kelsey Dailey, U.S. EPA  
Office of Ground Water and Drinking Water  
Standards and Risk Management Division  
Unregulated Contaminant Monitoring Branch



Office of Water

Slide 73 of 96

## Overview

- PFAS Resources
  - U.S. EPA
  - Water Research Foundation (WRF)
- Lithium Resources
- General Resources
  - U.S. EPA [Risk Communication website](#)
  - American Water Works Association (AWWA) [Trending in an Instant \(pdf\)](#) *“Risk Communication Guide for Water Utilities”*



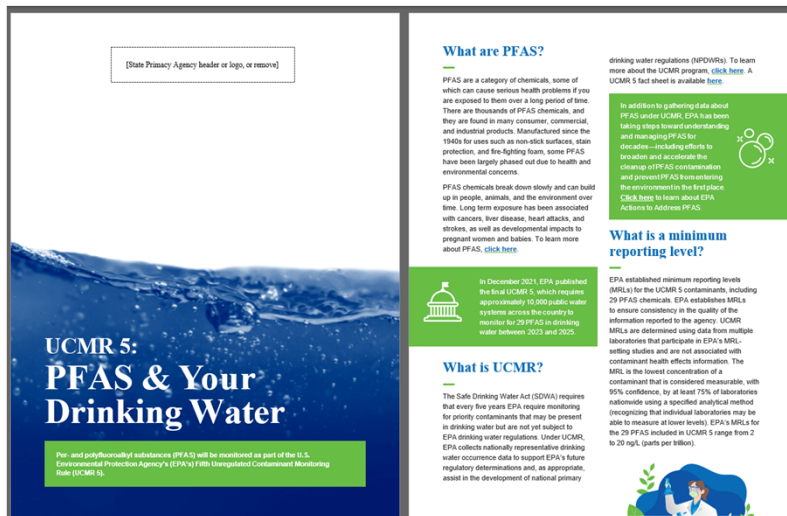
Office of Water

Slide 74 of 96

## U.S. EPA PFAS Resources

- UCMR-Specific
  - UCMR 5: Program Overview Fact Sheet ([pdf](#)), Spanish Version ([pdf](#))
  - Health-Based Reference Values (HBRVs) for UCMR 5 ([web](#))
  - UCMR 5: PFAS and Your Drinking Water – Fact Sheet Template for States
    - Provides PWS with a better understanding of UCMR 5 results
      - What are PFAS?
      - What is UCMR?
      - What is a minimum reporting level?
      - What is a lifetime health advisory?
      - What are the UCMR 5 requirements for notifying customers?
      - How do I access my UCMR 5 results?
      - What can consumers do to reduce exposure to PFAS?
      - Where can I find more information about PFAS in drinking water?
      - To learn more about what [enter name of State] is doing to address PFAS in drinking water, visit: [Insert relevant links or information regarding State/local PFAS guidance, PWS reporting requirements, or regulations]

## UCMR 5 PFAS Risk Communication Template for States



[State Primary Agency header or logo, or remove]

### UCMR 5: PFAS & Your Drinking Water

Per- and polyfluoroalkyl substances (PFAS) will be monitored as part of the U.S. Environmental Protection Agency's (EPA's) Fifth Unregulated Contaminant Monitoring Rule (UCMR 5).

#### What are PFAS?

PFAS are a category of chemicals, some of which can cause serious health problems if you are exposed to them over a long period of time. There are thousands of PFAS chemicals, and they are found in many consumer, commercial, and industrial products. Manufactured since the 1940s for uses such as non-stick surfaces, stain protection, and fire-fighting foam, some PFAS have been largely phased out due to health and environmental concerns.

PFAS chemicals break down slowly and can build up in people, animals, and the environment over time. Long-term exposure has been associated with cancers, liver disease, heart attacks, and strokes, as well as developmental impacts to pregnant women and babies. To learn more about PFAS, [click here](#).

In December 2021, EPA published the final UCMR 5, which requires approximately 10,000 public water systems across the country to monitor for 29 PFAS in drinking water between 2023 and 2025.

#### What is UCMR?

The Safe Drinking Water Act (SDWA) requires that every five years EPA require monitoring for priority contaminants that may be present in drinking water but are not subject to EPA drinking water regulations. Under UCMR, EPA collects nationally representative drinking water occurrence data to support EPA's future regulatory determinations and, as appropriate, assist in the development of national primary

drinking water regulations (NPDWRs). To learn more about the UCMR program, [click here](#). A UCMR 5 fact sheet is available [here](#).

In addition to gathering data about PFAS under UCMR, EPA has been taking steps toward understanding and managing PFAS for "discharge"—including efforts to ban and accelerate the cleanup of PFAS contamination and prevent PFAS from entering the environment in the first place. [Click here](#) to learn about EPA Actions to Address PFAS.

#### What is a minimum reporting level?

EPA established minimum reporting levels (MRLs) for the UCMR 5 contaminants, including 29 PFAS chemicals. EPA establishes MRLs to ensure consistency in the quality of the information reported to the agency. UCMR MRLs are determined using data from multiple laboratories that participate in EPA's MRL-setting studies and are not associated with contaminant health effects information. The MRL is the lowest concentration of a contaminant that is considered measurable, with 95% confidence, by at least 75% of laboratories nationwide using a specified analytical method (recognizing that individual laboratories may be able to measure at lower levels). EPA's MRLs for the 29 PFAS included in UCMR 5 range from 2 to 20 ng/L (parts per billion).

# UCMR 5 PFAS Risk Communication Template for States

|  |   |  |
|--|---|--|
| <p><b>What is a lifetime health advisory?</b></p> <p>EPA's lifetime health advisories are non-enforceable and non-regulatory and identify levels to protect all people, including sensitive populations and life stages, from adverse health effects resulting from exposure throughout their lives to a contaminant in drinking water. States may have advisory levels or regulations for PFAS that public water systems should be aware of. Some PFAS lifetime health advisory levels are below UCMR 5 MRLs.</p> <p>If your drinking water results show that an unregulated PFAS contaminant was found, EPA has resources available to help consumers understand health impacts and risk levels. <a href="#">Click here</a> to read the 2022 Drinking Water Health Advisories for PFAS.</p> <p><b>What are the UCMR 5 requirements for notifying customers?</b></p> <p>Public water systems are required to notify customers about their UCMR results, no later than 12 months after they are released. Community Water Systems (CWSs) are also required to report UCMR results in their annual Contaminant Compliance Report (CCR) when unregulated contaminants are found. CWSs may include their public notice within CCRs, also known as annual drinking water quality reports, which are to be delivered to all billing customers each year by July 1. CWSs must report the average and range of the year's monitoring results.</p> | <p><b>How do I access my UCMR 5 results?</b></p> <p>Public water systems participating in UCMR 5 should register for a <a href="#">CWS/SDWAIS</a> account to receive automated notices when their results are ready to view in SDWAIS. The analytical results from UCMR are also publicly available in the <a href="#">National Contaminant Occurrence Database (NCOD)</a> for drinking water. For a summary of the UCMR results, see the <a href="#">quarterly NCOD</a> and health effects information, please refer to the <a href="#">UCMR Occurrence Data web page</a>.</p> <p><b>What can consumers do to reduce exposure to PFAS?</b></p> <p>To learn more about steps to reduce your exposure to PFAS, <a href="#">click here</a>. Individuals who are concerned about PFAS in their drinking water may consider in-home water treatment filters that are certified to lower the levels of PFAS in water. You can find more about these filters <a href="#">here</a>.</p> <p><b>Where can I find more information about PFAS in drinking water?</b></p> <p>Use the links below to learn more.</p> <ul style="list-style-type: none"> <li>Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems</li> <li>Questions and Answers: Drinking Water Health Advisories for PFOA, PFOS, GenX Chemicals and PFBS</li> <li>Health Based Reference Values for UCMR 5</li> </ul> | <ul style="list-style-type: none"> <li>PFAS National Primary Drinking Water Regulations (NPDWR) Consultations and Stakeholder Engagements</li> </ul> <p>Refer to the following resources for information on communicating UCMR 5 results to consumers.</p> <ul style="list-style-type: none"> <li>Water Research Foundation UCMR 5 Toolkit</li> <li>Drinking Water Health Advisories for PFAS Fact Sheet for Communities</li> </ul> <p><b>To learn more about what [enter name of State] is doing to address PFAS in drinking water, visit:</b></p> <p>[Insert relevant links or information regarding State/local PFAS guidance or regulations]</p> <p>[Insert any State-specific PFAS reporting the PWS is required to do]</p> |
|--|---|--|

## U.S. EPA PFAS Resources

- Agencywide
  - Questions and Answers: Drinking Water HAs for PFOA, PFOS, GenX Chemicals, and PFBS ([web](#))
  - Drinking Water HAs for PFAS Fact Sheet for Communities ([pdf](#))
  - Drinking Water HAs for PFAS Fact Sheet for Public Water Systems ([pdf](#))
  - Technical Fact Sheet: Drinking Water HAs for Four PFAS (PFOA, PFOS, GenX Chemicals, and PFBS) ([pdf](#))
  - PFAS Explained: <https://www.epa.gov/pfas/pfas-explained>
  - PFAS NPDWR Consultations and Stakeholder Engagements: <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>





## Water Research Foundation “PFAS One Water Risk Communication Messaging for Water Sector Professionals”

- The Water Research Foundation (WRF) published PFAS communication materials in 2022 (Project 5124), developed with input from water industry experts, stakeholders, and PWS customers
  - See “[PFAS Communication Guidance](#)” *Advances in Water Research*, July-Sept, Vol. 32, No. 3
- WRF Toolkits help guide water systems to design their own Frequently Asked Questions (FAQs) and other messaging for sharing with customers, stakeholders, and on websites
  - UCMR 5 Toolkit (December 2022)
  - One Water Toolkit (July 2022)

Materials are available by registering for a free *Public Plus* account on the WRF website at:

<https://www.waterrf.org/research/projects/pfas-one-water-risk-communication-messaging-water-sector-professionals>



Office of Water

Slide 79 of 96



## WRF UCMR 5 Toolkit


- Includes a “How To” guide and FAQ templates based on three different scenarios so the PWS may choose what best fits their situation and tailor their communication accordingly
  - **Scenario 1:** Systems that have sampled in a State with State-specific enforceable limits
  - **Scenario 2:** Systems that have sampled in a State without State-specific enforceable limits (regardless of State-specific health advisory levels)
  - **Scenario 3:** Systems that have not sampled (but plan to for UCMR 5)
- Also provides CCR guidance and example language for meeting State requirements (as appropriate) for sharing UCMR 5 PFAS results

Toolkit is available by registering for a free *Public Plus* account on the WRF website at: <https://www.waterrf.org/resource/ucmr5-toolkit>

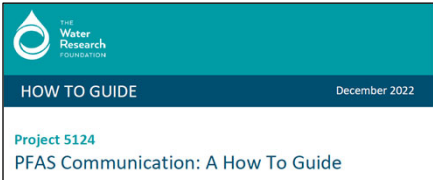


Office of Water

Slide 80 of 96



# WRF UCMR 5 Toolkit



**HOW TO GUIDE** December 2022

Project 5124  
PFAS Communication: A How To Guide

Introduction

"What are PFAS?"

"What are you doing about PFAS in drinking water?"

"Can I still drink my tap water and use it to cook and bathe?"

"How can I learn more about PFAS in drinking water?"

"What can I do to help decrease PFAS entering the environment and potentially the water supply?"

"What can I do to reduce my overall exposure to PFAS?"

"What is a part per trillion?"


**Q: What is a part per trillion?**

**Background:** The typical customer will most likely not immediately recognize the fact that PFAS are measured in parts per trillion, not parts per million or parts per billion like other substances. This is an opportunity for water systems to put parts per trillion in perspective for the customer.

**A:** A part per trillion describes the amount of something, in this case PFAS, in water or soil. Here is an idea of what that means:

parts per million (ppm)


3 drops



added to a 42-gallon barrel

parts per billion (ppb)


1 drop



added to a large tanker truck

parts per trillion (ppt)

10 drops




added to the Rose Bowl

**WHAT IS [WATER SYSTEM] DOING ABOUT PFAS IN DRINKING WATER?**

[WATER SYSTEM] sampled for PFAS in [YEAR OR YEARS] to get an understanding of the levels in the drinking water coming out of the treatment plant. The results are provided in the table below. The levels are in parts per trillion (ppt).

| PFAS Chemical | Acronym | Result (ppt) | Health Reference Level (MCL) Drinking Water Limit (ppt) |
|---------------|---------|--------------|---|
|               |         |              |   |
|               |         |              |   |
|               |         |              |   |
|               |         |              |   |


Toolkit is available by registering for a free *Public Plus* account on the WRF website at: <https://www.waterrf.org/resource/ucmr5-toolkit>



United States Environmental Protection Agency

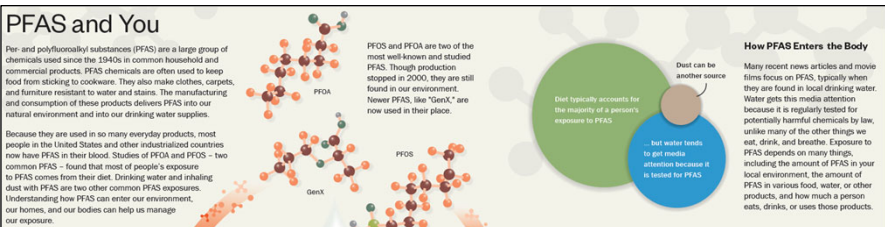
Office of Water

Slide 81 of 96



# WRF One Water Toolkit

- Includes materials on PFAS for informing stakeholders to have a clearer perception of risk, understanding of action being taken by utilities to mitigate that risk, and sense of involvement
- PFAS brochures, FAQs, graphics, product information resources, and sample content for websites/postcards/emails/letters/inserts



**PFAS and You**

Per- and polyfluoroalkyl substances (PFAS) are a large group of chemicals used since the 1940s in common household and commercial products. PFAS chemicals are often used to keep food from sticking to cookware. They also make clothes, carpets, and furniture resistant to water and stains. The manufacturing and consumption of these products delivers PFAS into our natural environment and into our drinking water supplies.

Because they are used in so many everyday products, most people in the United States and other industrialized countries now have PFAS in their blood. Studies of PFOA and PFOS – two common PFAS – found that most of people's exposure to PFAS comes from their diet. Drinking water and inhaling dust with PFAS are two other common PFAS exposures. Understanding how PFAS can enter our environment, our homes, and our bodies can help us manage our exposure.

PFOA and PFOS are two of the most well-known and studied PFAS. Though production stopped in 2000, they are still found in our environment. Newer PFAS, like "GenX," are now used in their place.

Diet typically accounts for the majority of a person's exposure to PFAS.


Dust can be another source.

... but water tends to get media attention because it is tested for PFAS.

**How PFAS Enters the Body**

Many recent news articles and movie films focus on PFAS, typically when they are found in local drinking water. Water gets this media attention because it is regularly tested for potentially harmful chemicals by law, unlike many of the other things we eat, drink, and breathe. Exposure to PFAS depends on many things, including the amount of PFAS in your local environment, the amount of PFAS in various food, water, or other products, and how much a person eats, drinks, or uses those products.


Toolkit is available by registering for a free *Public Plus* account on the WRF website at: <https://www.waterrf.org/resource/one-water-toolkit>



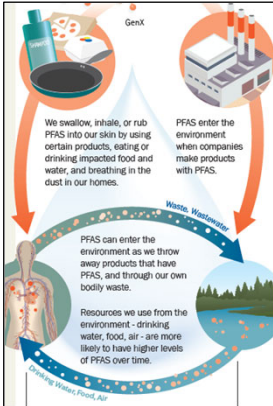
United States Environmental Protection Agency

Office of Water

Slide 82 of 96



# WRF One Water Toolkit



**How We Can Reduce Our Exposure**

PFAS exposure can vary depending on your local environment, but you can take steps to reduce the PFAS around you. You can identify PFAS in products by looking for "fluoro" or "perfluoro" in an ingredients list. Choosing products that do not have PFAS can require some research, but it is an effective way to reduce your exposure. It can also mean giving up some product features such as "non-stick," or "water- or stain-resistant."

Consider replacing older and worn-out products that have these features. Studies have also found that cooking more of your meals at home can lower PFAS blood levels.


**PFAS and Water**

Water quality is regulated to protect public health and drinking water quality is public information. Thus, water often provides the first clues about health-related trends we need to pay attention to.

Water also connects all of us. Vast as it may seem, our world is a closed system. There is no such thing as "new" water. All water is shared, and it flows in and out of streams, rivers, oceans, and each of us. Along the way, it often carries the things that we put in it, including chemicals like PFAS.

Water utilities are responsible for maintaining water quality according to regulations while also keeping drinking water affordable. Treatment to remove PFAS from water can happen at utilities and in our homes - using technologies like activated carbon and reverse osmosis - but this treatment can be expensive. Our country's regulatory process helps make sure we are delivering the safest water at a cost that is affordable to all. Your water utility's website is the best place to find reliable information about relevant regulations and our local drinking water quality.

Toolkit is available by registering for a free *Public Plus* account on the WRF website at: <https://www.waterrf.org/resource/one-water-toolkit>




United States Environmental Protection Agency

Office of Water

Slide 83 of 96

## Resources for Lithium in Drinking Water

- U.S. EPA
  - [EPA Provisional Peer-Reviewed Toxicity Value \(PPRTV\) for Lithium, 2008](#)
  - [Technical Support Document for the Final CCL 5 - Contaminant Information Sheets, 2022](#)
  - UCMR 5 Information Compendium for Contaminants, 2021, available in the docket at: <https://www.regulations.gov/document/EPA-HQ-OW-2020-0530-0126>
    - Included available lithium occurrence data in water from EPA and [U.S. Geological Survey \(USGS\)](#) studies, along with supporting information considered during the UCMR 5 contaminant prioritization process



United States Environmental Protection Agency

Office of Water

Slide 84 of 96

## Closing Remarks

**Thank you** for attending this UCMR 5 webinar

## If You Have Questions Following This Presentation – References

- **Presentation slides** were sent to all registered participants
  - If you did not receive a copy, please email [UCMRwebinar@cadmusgroup.com](mailto:UCMRwebinar@cadmusgroup.com) and we will send you a copy
- **October 2022 PWS Webinars for Implementation and March 2022 Stakeholder Meeting Slides with Question and Answers**
  - <https://www.epa.gov/dwucmr/unregulated-contaminant-monitoring-rule-ucmr-meetings-and-materials>

### Question and Answers for 2022 Webinars

Questions received during the March and October webinars were similar. Please refer to the March 2022 Stakeholder Meeting Slides (linked above) and note the last bookmarked section – Appendix 2: Supplemental Q&A



## If You Have Questions Following This Presentation – References

- **UCMR Website**  
<https://www.epa.gov/dwucmr>
- **SDWARS 5 Walkthrough Video for Small PWSs**  
<https://youtu.be/2gacQ4Gle7I>
- **SDWARS 5 Walkthrough Video for Large PWSs**  
<https://youtu.be/2I4oUSGR4Fc>
- **UCMR 5 Sample Collection Training Video for Small PWSs**  
<https://youtu.be/8cHlxUTDPgE>
- **Safe Drinking Water Information**  
<https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-information>

## If You Have Questions Following This Presentation – Contacts

- **UCMR Message Center**
  - For general questions about requirements (*e.g.*, inventory, data elements, schedule) or navigating SDWARS, and for specific small PWS sampling questions, [UCMR5@glec.com](mailto:UCMR5@glec.com) or 1-800-949-1581
- **UCMR Small PWS Sampling Hotline**
  - For immediate assistance on sampling (*e.g.*, sample kits, shipping), [UCMR@glec.com](mailto:UCMR@glec.com) or 231-525-0521
- **UCMR Sampling Coordinator**
  - For specific large PWS sampling questions, [UCMR\\_Sampling\\_Coordinator@epa.gov](mailto:UCMR_Sampling_Coordinator@epa.gov)
- **CDX Help Desk**
  - For CDX/SDWARS 5 registration issues, [helpdesk@epacdx.net](mailto:helpdesk@epacdx.net) or 1-888-890-1995
- **EPA Contacts**
  - Brenda Bowden: [bowden.brenda@epa.gov](mailto:bowden.brenda@epa.gov)
  - Melissa Simic: [simic.melissa@epa.gov](mailto:simic.melissa@epa.gov)

## Common Questions Received



## Appendix 1: Abbreviations and Acronyms

## Abbreviations and Acronyms

- **µg** – Microgram
- **11Cl-PF3OUds** – 11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid
- **4:2 FTS** – 1H, 1H, 2H, 2H-Perfluorohexane Sulfonic Acid
- **6:2 FTS** – 1H, 1H, 2H, 2H-Perfluorooctane Sulfonic Acid
- **8:2 FTS** – 1H, 1H, 2H, 2H-Perfluorodecane Sulfonic Acid
- **9Cl-PF3ONS** – 9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid
- **ADONA** – 4,8-Dioxa-3H-Perfluorononanoic Acid
- **ATSDR** – Agency for Toxic Substances and Disease Registry
- **AWIA** – America’s Water Infrastructure Act of 2018
- **CCL** – Contaminant Candidate List
- **CDX** – Central Data Exchange
- **CFR** – Code of Federal Regulations

## Abbreviations and Acronyms

- **CWS** – Community Water System
- **EPA** – Environmental Protection Agency
- **EP/EPTDS** – Entry Point to the Distribution System
- **FR** – Federal Register
- **GenX** – Trade Name for a Technology Used to Make High-Performance Fluoropolymers Without the Use of PFOA
- **HA** – Health Advisory
- **HBRV** – Health-Based Reference Value
- **HFPO-DA** – Hexafluoropropylene Oxide Dimer Acid
- **HRL** – Health Reference Level
- **IRIS** – Integrated Risk Information System

## Abbreviations and Acronyms

- **kg** – Kilogram
- **L** – Liter
- **mg** – Milligram
- **MRL** – Minimum Reporting Level
- **ng** – Nanogram
- **NCOD** – National Contaminant Occurrence Database
- **NDAA** – National Defense Authorization Act
- **NEtFOSAA** – N-Ethyl Perfluorooctanesulfonamidoacetic Acid
- **NFDHA** – Nonafluoro-3,6-Dioxaheptanoic Acid
- **NMeFOSAA** – N-Methyl Perfluorooctanesulfonamidoacetic Acid
- **NPDWR** – National Primary Drinking Water Regulation

## Abbreviations and Acronyms

- **NTNCWS** – Non-Transient Non-Community Water System
- **OGWDW** – Office of Ground Water and Drinking Water
- **OW** – Office of Water
- **PFAS** – Per- and Polyfluoroalkyl Substance
- **PFBA** – Perfluorobutanoic Acid
- **PFBS** – Perfluorobutanesulfonic Acid
- **PFDA** – Perfluorodecanoic Acid
- **PFDoA** – Perfluorododecanoic Acid
- **PFEESA** – Perfluoro (2-Ethoxyethane) Sulfonic Acid
- **PFHpA** – Perfluoroheptanoic Acid
- **PFHpS** – Perfluoroheptanesulfonic Acid



## Abbreviations and Acronyms

- **PFHxA** – Perfluorohexanoic Acid
- **PFHxS** – Perfluorohexanesulfonic Acid
- **PFMBA** – Perfluoro-4-Methoxybutanoic Acid
- **PFMPA** – Perfluoro-3-Methoxypropanoic Acid
- **PFNA** – Perfluorononanoic Acid
- **PFOA** – Perfluorooctanoic Acid
- **PFOS** – Perfluorooctanesulfonic Acid
- **PFPeA** – Perfluoropentanoic Acid
- **PFPeS** – Perfluoropentanesulfonic Acid
- **PFTA** – Perfluorotetradecanoic Acid
- **PFTTrDA** – Perfluorotridecanoic Acid

## Abbreviations and Acronyms

- **PFUnA** – Perfluoroundecanoic Acid
- **PPRTV** – Provisional Peer-Reviewed Toxicity Value
- **PWS** – Public Water System
- **PWSID** – Public Water System Identification Code
- **QC** – Quality Control
- **RfD** – Reference Dose
- **SDWA** – Safe Drinking Water Act
- **SDWARS** – Safe Drinking Water Accession and Review System
- **SE** – Sample Event
- **TNCWS** – Transient Non-Community Water System
- **UCMR** – Unregulated Contaminant Monitoring Rule