



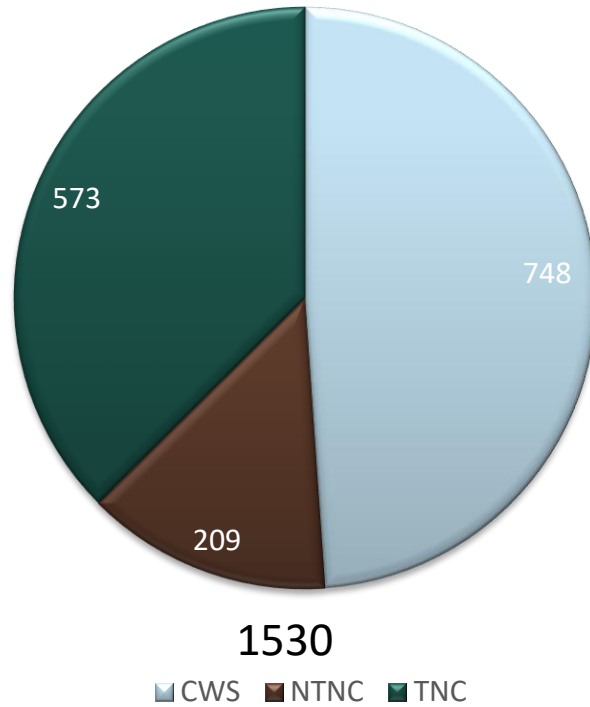
# PFAS in Arizona & Regulatory Climate

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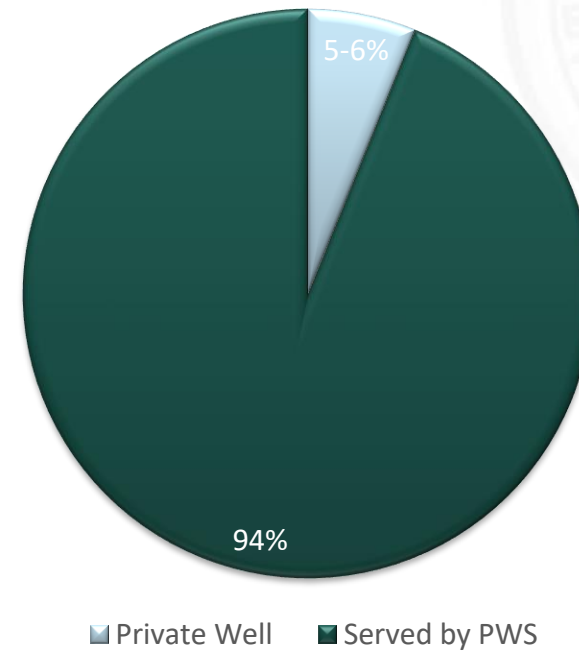


# Regulated PWS Demographics in Arizona

## Public Water Systems



## Arizona Drinking Water Census



Population	
CWS	6,495,247
NTNC	126,492
TNC	110,563

- Unregulated Contaminant Monitoring Rule (UCMR3) third round
  - PWS serving more than 10,000 people (required)
  - EPA selects systems serving less than 10,000 to participate in the required monitoring
- Self monitoring & reporting
- EPA Multi-purpose Grant



Third Unregulated Contaminant Monitoring Rule (UCMR) six PFAS included for monitoring:

- \*perfluorooctanesulfonic acid (PFOS) \*perfluorooctanoic acid (PFOA)
- \*perfluorononanoic acid (PFNA) \*perfluorohexanesulfonic acid (PFHxS)
- \*perfluoroheptanoic acid (PFHpA) \*perfluorobutanesulfonic acid (PFBS)

No. of Public Water Systems	
Detections of PFAS	6
≥ Health Advisory	4
ADEQ Regulated PWS Sampled	82 out of 961*

**UCMR3 PWS's represent 81% of the Total Population**

## Data Gaps

\* CWS and NTNC PWS

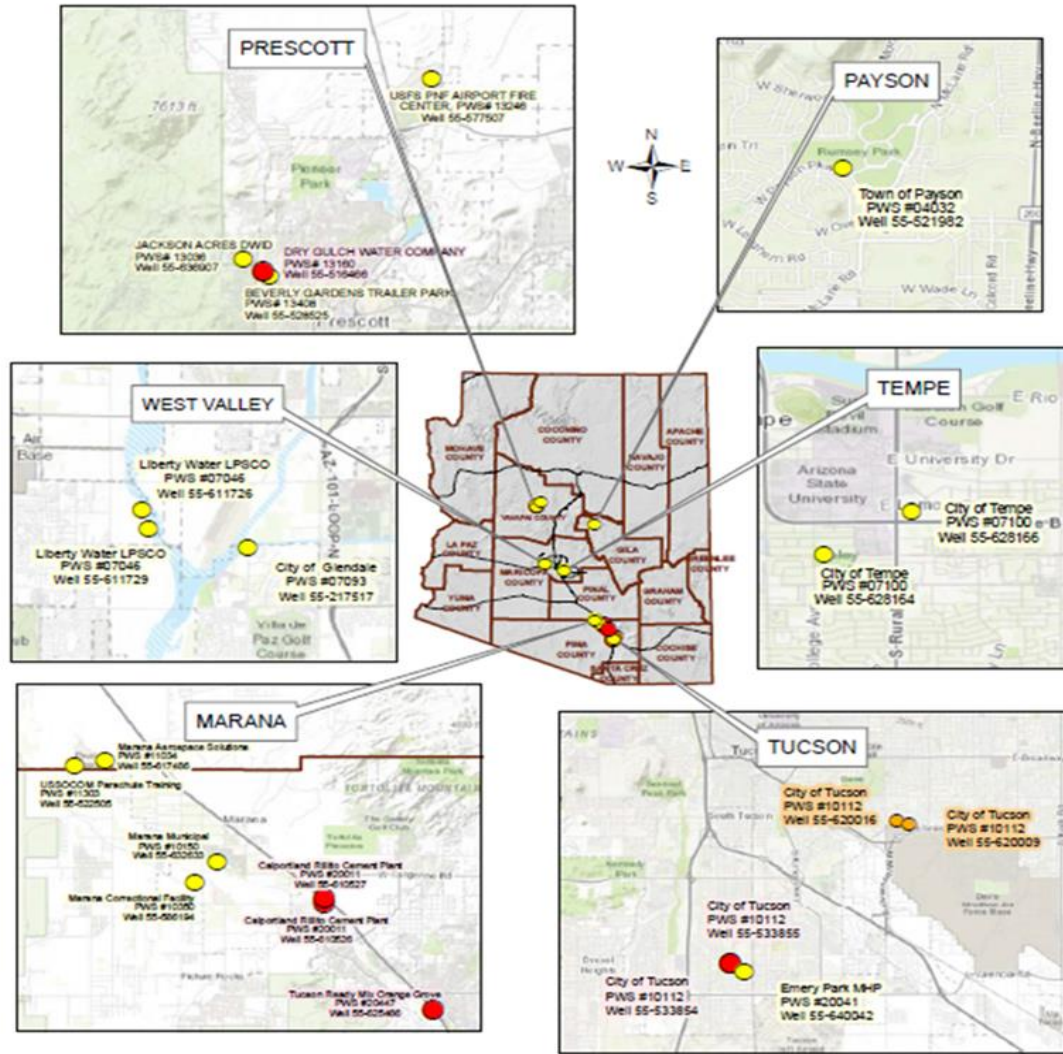
- ADEQ awarded an EPA multi-purpose Grant
- Goal:
  - Sample PWS wells to determine impacts with PFOA/PFOS
    - Further investigate risks to wells not monitored under UCMR3
  - Samples pulled from the wellhead vs. EPDS



**\$120,822**

For sample analysis, ADEQ used the EPA Health Advisory of 70 parts per trillion (ppt) for PFOA/PFOS. This equates to approximately 1 drop in 18 million gallons of water.

# Methodology: Identifying Well Candidates



**Based on Vulnerability  
& Susceptibility  
Assessment Using:**

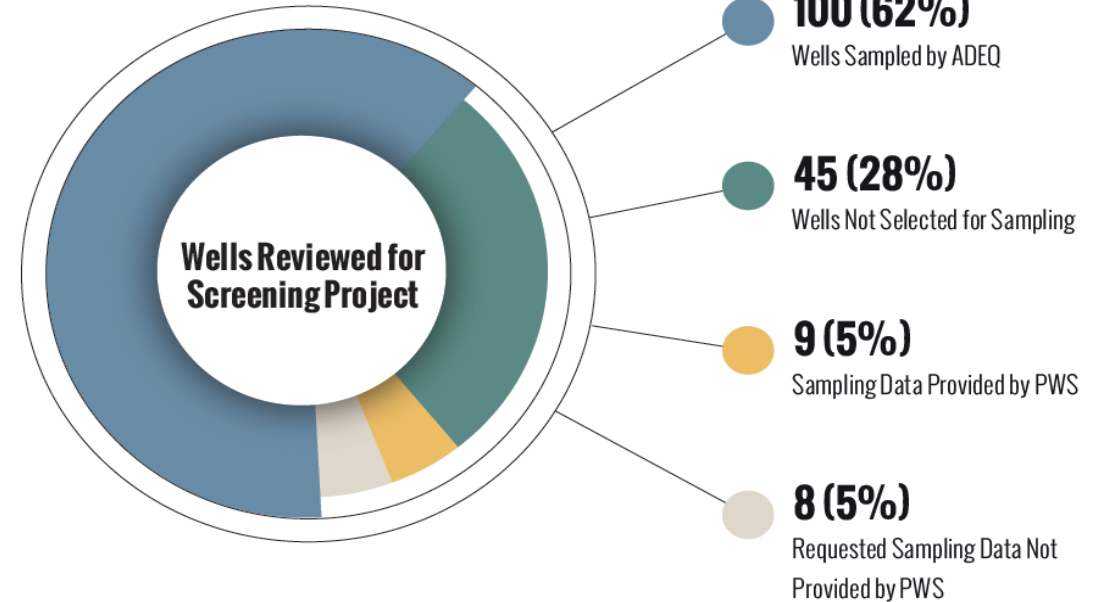
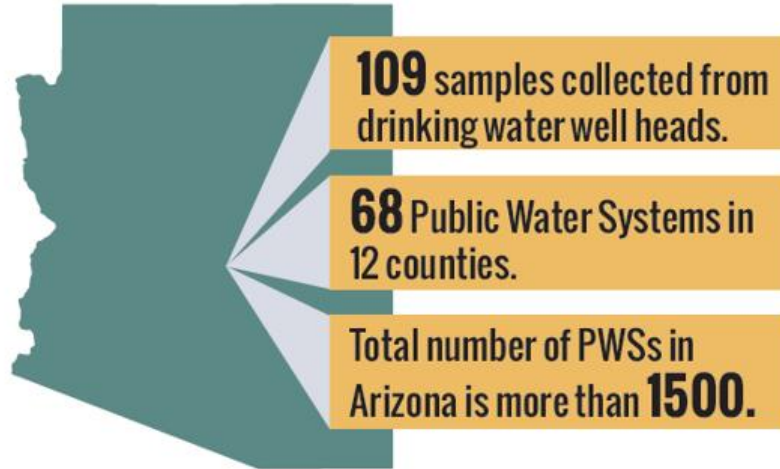
- **GIS maps**
- **Hydrogeology**
- **Aquifer**
- **Well construction**
- **Flow direction**

This map is for general reference only and may not be all inclusive. ADEQ program's data collection efforts are ongoing. More detailed information and specific locations can be obtained by contacting the Arizona Department of Environmental Quality.

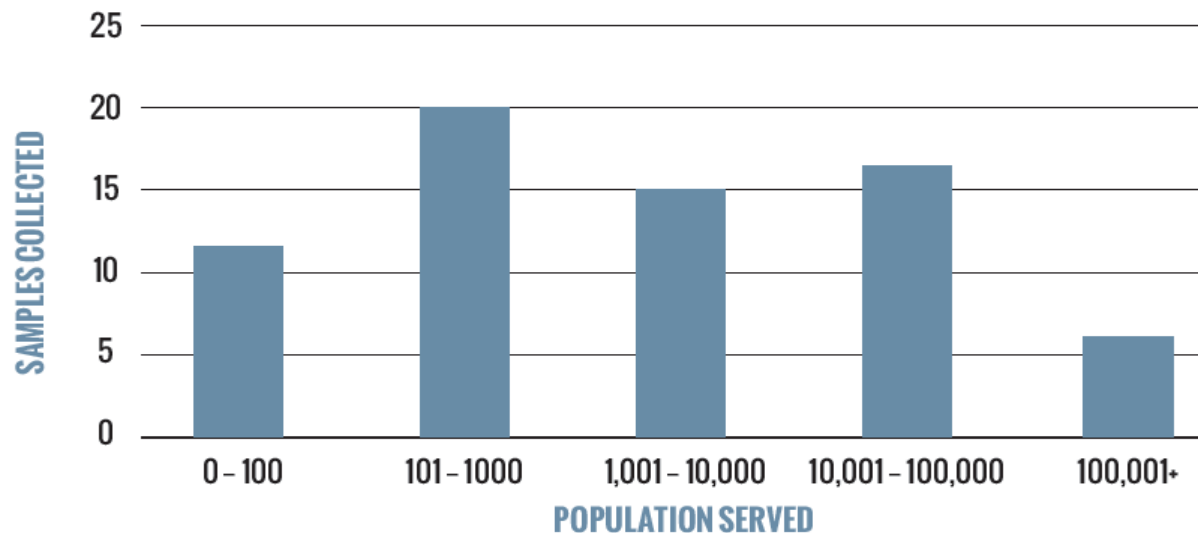
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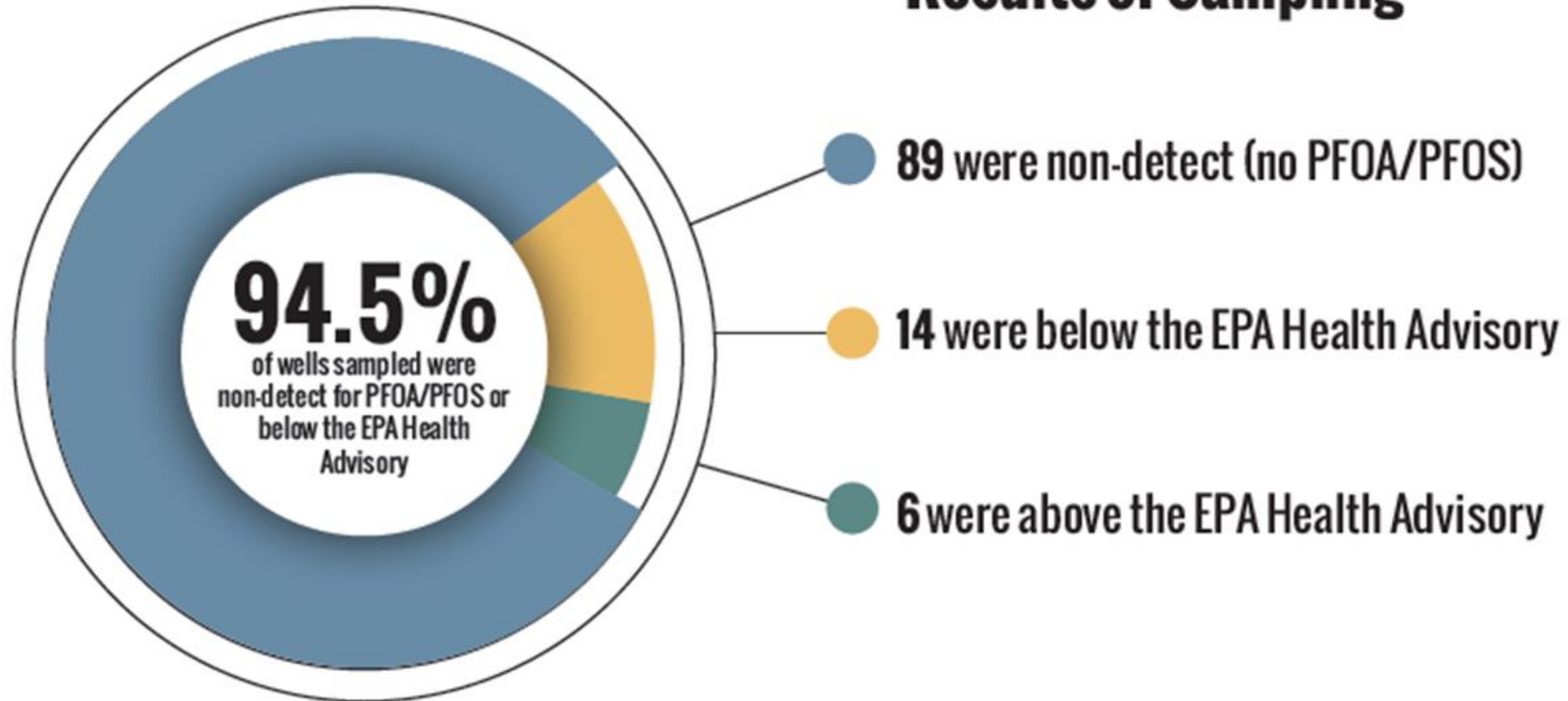
## Project Scope:



## Sampled PWS Population



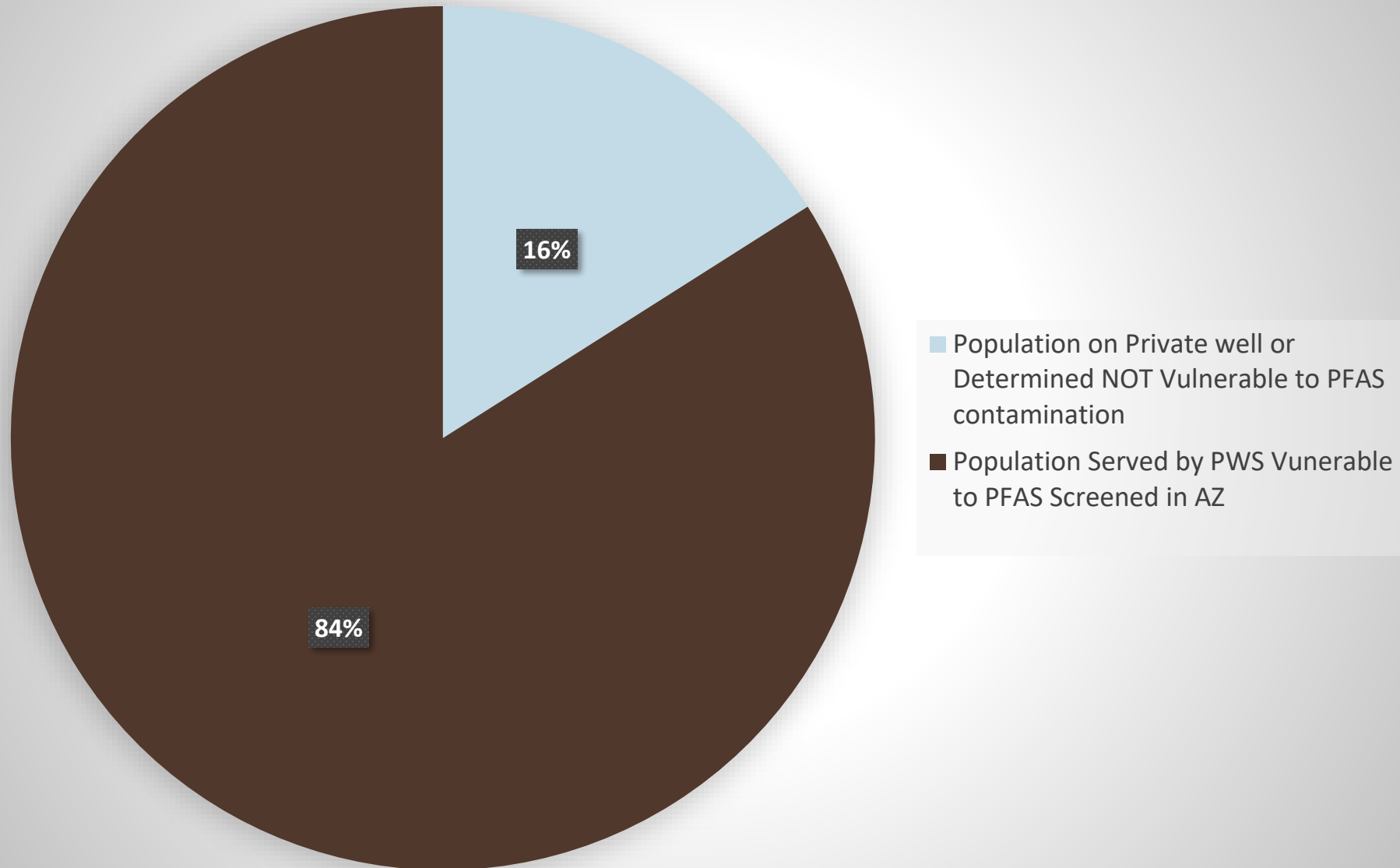
## Results of Sampling



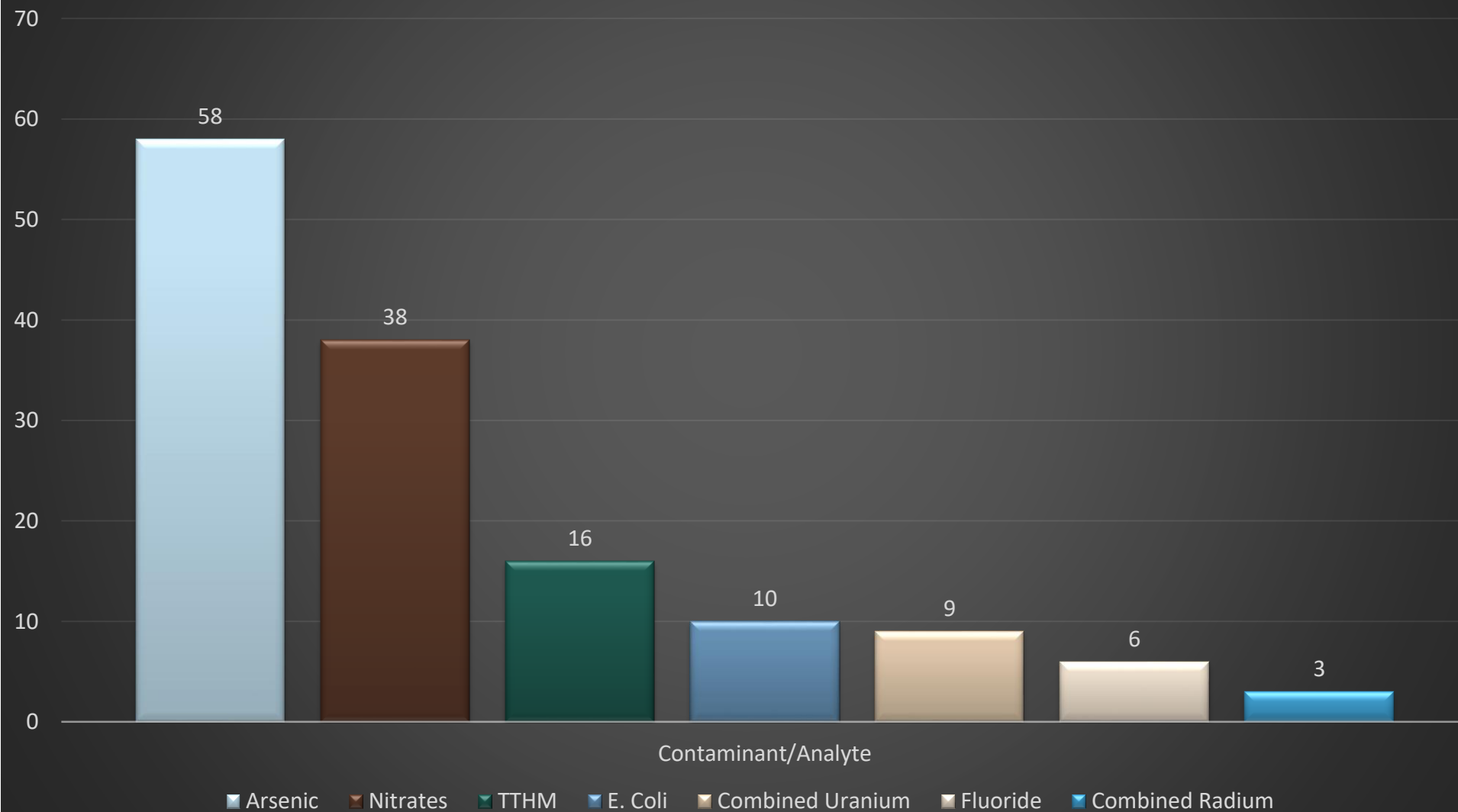


# Drinking Water & PFAS Issues Summary

## Represented Population for PFAS Sampling



## NPDW Health Based Exceedances 2016-2019



# Actions to Take for Unregulated Contaminants



**Inform**



**Limit Exposure**

\$\$\$



**Treat or Blend**

\$\$\$

\$\$\$ = SRF via. WIFA

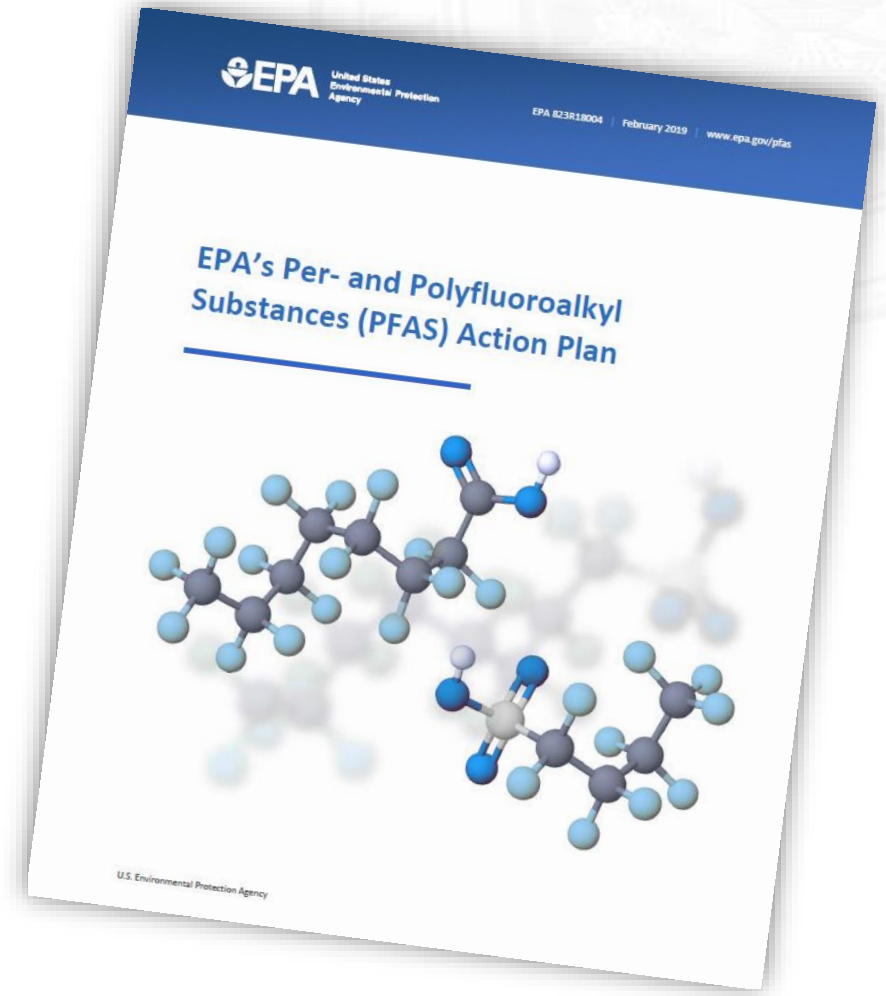
- Aware of areas with PFAS ground water contamination
- Aware of with Drinking Water Sources with PFAS detections
  - All, but **1** source above the Health Advisory (70 ppt) has taken an action to reduce or eliminate exposure.
- Consistently apart of the regulatory environment with the anticipated upcoming PFAS regulations in the SDWA.
  - EPA/ASDWA/ECOS PFAS Caucus Group, ITRC, EPA ROCS-NET, and inter-agency PFAS workgroups
- State Statues = Limitation

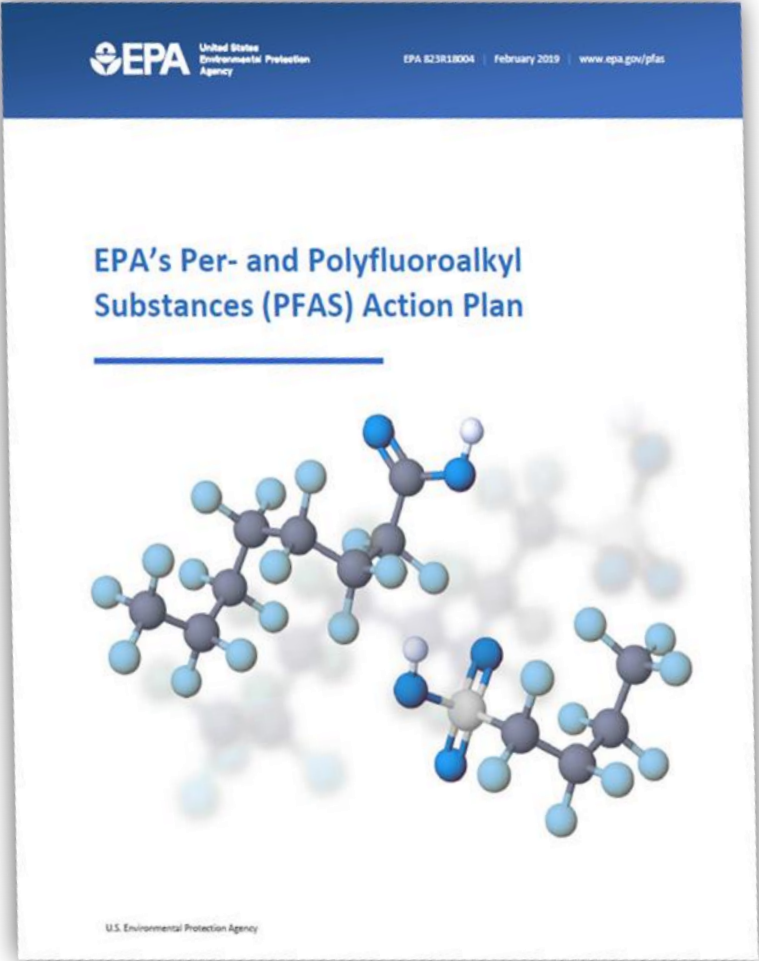


## Regulatory Climate: Updates from EPA



- National PFAS Leadership Summit – May 2018
  - Share information, identify actions, risk communication
- EPA PFAS Action Plan – February 2019
  - Provides EPA's first multi-media, multi-program, national research management and risk communication plan to address a challenge like PFAS



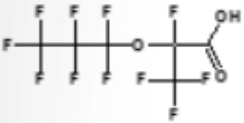
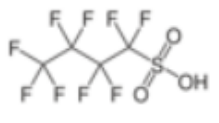
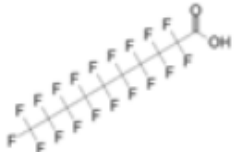
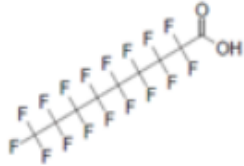
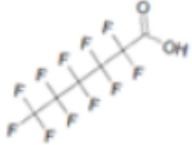
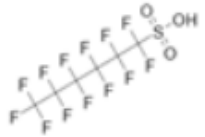
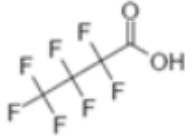
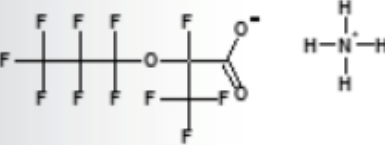


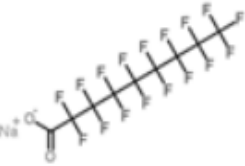

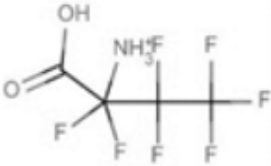


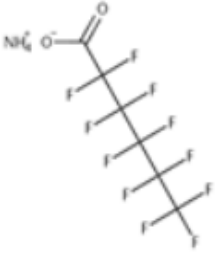



Provides EPA’s first multi-media, multi-program, national research management and risk communication plan to address a challenge like PFAS.

Table 1. Key PFAS-Related Challenges and Planned and Ongoing EPA Actions

Stakeholder concern or Challenge	EPA Action(s)	Purpose
EPA Priority Actions		
Increase understanding about potential human health impacts of additional PFAS	Finalize draft toxicity assessments for GenX chemicals and PFBS; develop additional PFAS toxicity values for PFBA, PFHxA, PFHxS, PFNA, and PFDA.	Finalized toxicity assessments can be combined with specific exposure information by government and private entities to help characterize potential public health risks associated with exposure to these chemicals.

# Current Toxicity Assessments in Development

 <p><b>HFPO dimer acid</b> 13252-13-6</p>	 <p><b>PFBS</b> 375-73-5</p>	 <p><b>PFDA</b> 335-76-2</p>	 <p><b>PFNA</b> 375-95-1</p>	 <p><b>PFHxA</b> 307-24-4</p>	 <p><b>PFHxS</b> 355-46-4</p>	 <p><b>PFBA</b> 375-22-4</p>
 <p><b>HFPO dimer acid ammonium salt</b> 62037-80-3</p>	 <p><b>PFBS potassium salt</b> 29420-49-3</p>	 <p><b>PFDA sodium salt</b> 3830-45-3</p>	 <p><b>PFNA sodium salt</b> 21049-39-8</p>	 <p><b>PFHxA sodium salt</b> 2923-26-4</p>	 <p><b>PFBA ammonium salt</b> 10495-86-0</p>	
		 <p><b>PFDA ammonium salt</b> 3108-42-7</p>	 <p><b>PFNA ammonium salt</b> 4149-60-4</p>	 <p><b>PFHxA ammonium salt</b> 21615-47-4</p>	 <p><b>PFHxS potassium salt</b> 3871-99-6</p>	

- **Drinking Water** : EPA is committed to following the MCL rulemaking process established by the SDWA for PFOA and PFOS, by the end of 2019.
- **Clean up** : Initiating regulatory process for designating PFOA and PFOS as Hazardous Substances, set interim groundwater cleanup recommendations
- **Toxics** : Consider including PFAS in Toxics Release Inventory (TRI), initiate proposal to prohibit the uses of certain PFAS chemicals through TSCA new chemicals program
- **Research** : Rapidly expand scientific foundation for understanding and managing PFAS risk
- **Enforcement** : Use enforcement tools, where appropriate, to address PFAS exposures in the environment and assist states in enforcement activities
- **Risk Communication** : Work with partners to develop a risk communication toolbox to support federal, state, tribal and local partners for communicating with their constituents

- The guidance provides recommendations on:
- Screening levels, which are used to determine if levels of contamination may warrant further investigation;
- Preliminary remediation goals (PRGs) to inform site-specific cleanup levels for PFOA and PFOS contamination of groundwater that is a current or potential source of drinking water.

*This draft document is solely for the purpose of public comment. It does not represent and should not be construed to represent any Agency determination or policy until it is finalized.*

## USEPA Draft Interim Recommendations to Address Groundwater Contaminated with Perfluorooctanoic Acid and Perfluorooctane Sulfonate

### PURPOSE

This guidance provides interim recommendations for addressing groundwater contaminated with perfluorooctanoic acid (PFOA) and/or perfluorooctane sulfonate (PFOS) at sites being evaluated and addressed under federal cleanup programs, including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) and corrective action under the Resource Conservation and Recovery Act (RCRA). In addressing PFOA and PFOS contamination, EPA's statutory and regulatory authorities provide the Agency with flexibility in how it ensures protectiveness of human health and the environment. Depending on site-specific circumstances, a CERCLA response action may be appropriate (including an interim action, interim measure, or an early action to abate releases and limit exposure, as discussed in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (e.g., 40 CFR 300.430 (e) and (f), 40 C.F.R. 300.415(b)(2)(ii) and associated provisions), and existing EPA guidance. The information and recommendations in this guidance may also be useful for state, tribal, or other regulatory authorities (e.g., federal facility cleanup programs, approved state RCRA corrective action programs).

Broadly, this guidance provides interim recommendations for screening levels, and preliminary remediation goals (PRGs) to inform final cleanup levels for PFOA and/or PFOS contamination of groundwater that is a current or potential source of drinking water. The recommendations in this document are consistent with existing EPA guidance and standard practices, in addition to applicable statutes and regulations. For groundwater contaminated with PFOA or PFOS, Regions should consult on a case-by-case basis with the Office of Land and Emergency Management (OLEM) prior to using the Fund and the Office of Enforcement and Compliance Assurance (OECA) prior to taking enforcement action.<sup>1</sup>

### INTERIM RECOMMENDATIONS

As explained more fully below, this guidance recommends the following:

- Screening sites using a screening level set to a Hazard Quotient<sup>2</sup> of 0.1 for PFOA or PFOS individually, which is currently 40 ng/L or parts per trillion (ppt);
- Using the PFOA and PFOS HAs of 70 ppt as the PRG for groundwater that is a current or





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## PFOA and PFOS FAQs

Revised on: October 21, 2019 - 8:49am

### What are PFOA and PFOS?

PFOA/PFOS are part of a larger group of man-made chemicals referred to as poly- and perfluoroalkyl substances (PFASs). PFOA is perfluorooctanoic acid and PFOS is perfluorooctane sulfonic acid. PFOA/PFOS are the most prevalent PFAS compounds in the environment.

PFAS has been used since the 1940s, and the compounds are/were commonly found in carpets, clothing, furniture fabric, food packaging, firefighting foam and other industrial processes. But, since 2000, most industries have been phasing out the use of these compounds in products.

In Arizona, research indicated that PFOA/PFOS compounds were not used on large-scale industrial applications and tend to be localized near areas of potential frequent use. There are no known facilities in Arizona that have manufactured these chemicals.

### How can PFAS affect my health?



#### CONTACT

##### Questions?

ADEQ

602-771-6145

[Email >](#)

ADHS

602-364-3118

[Email >](#)



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QUESTIONS??