

# PFAS in Drinking Water

Town of Stella Board Meeting  
December 13, 2022



**Sarah Yang, Ph.D.**

Wisconsin Department of Health Services



**James Yach**

Wisconsin Department of Natural Resources



PFAS are a family of human-made chemicals.

PFAS = per- and polyfluoroalkyl substances

PFAS are characterized by a

PFAS are characterized by a **carbon chain**

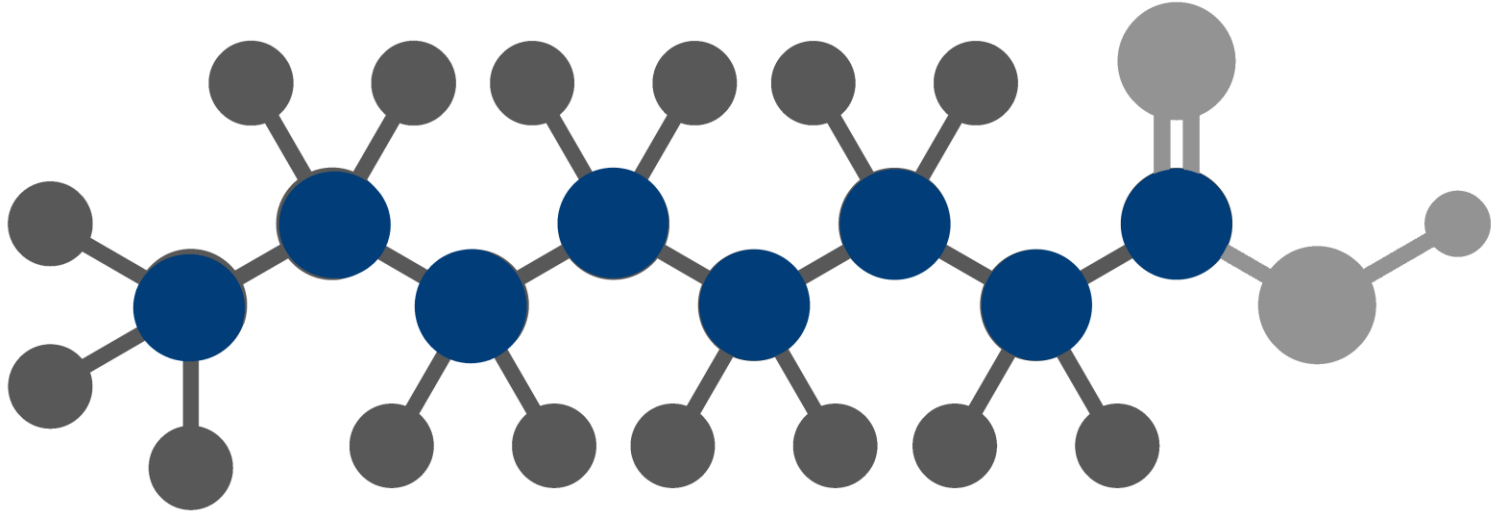


Diagram shows perfluorooctanoic acid (PFOA).

# attached **fluorines**

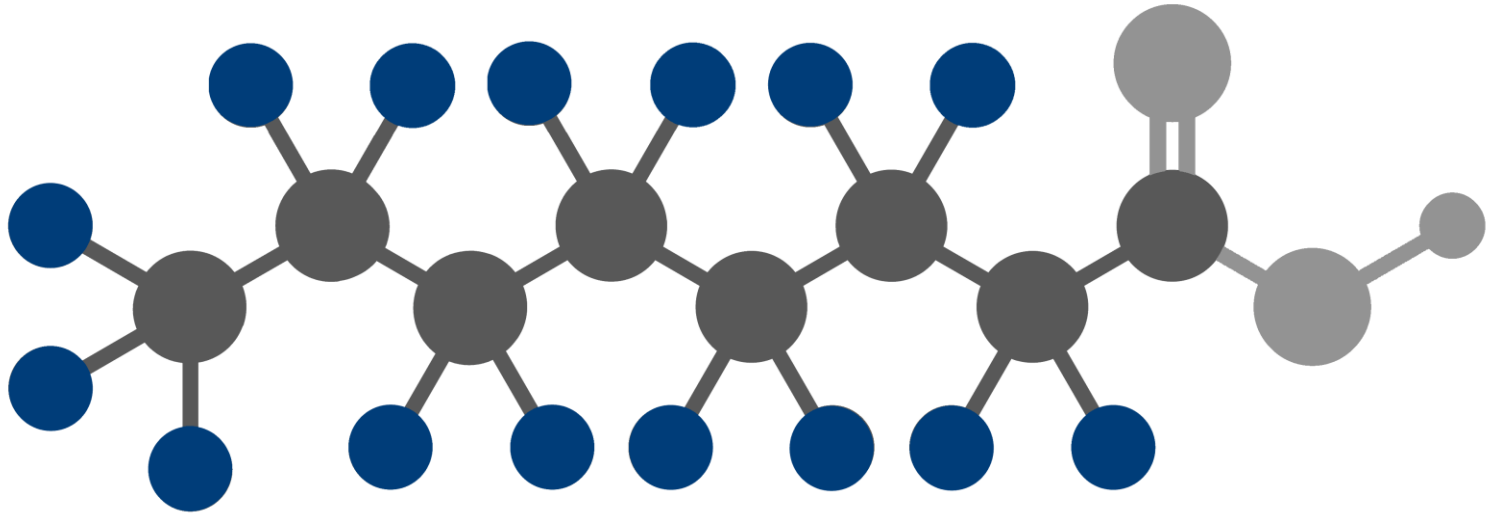


Diagram shows perfluorooctanoic acid (PFOA).

and a **functional group** on the end.

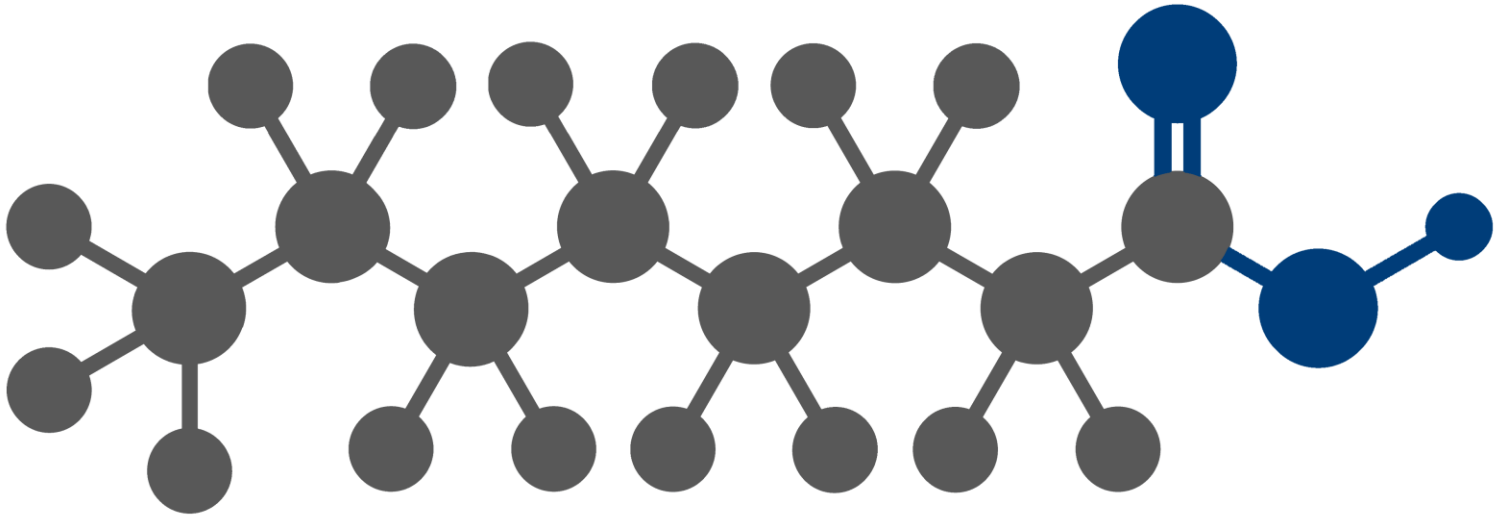
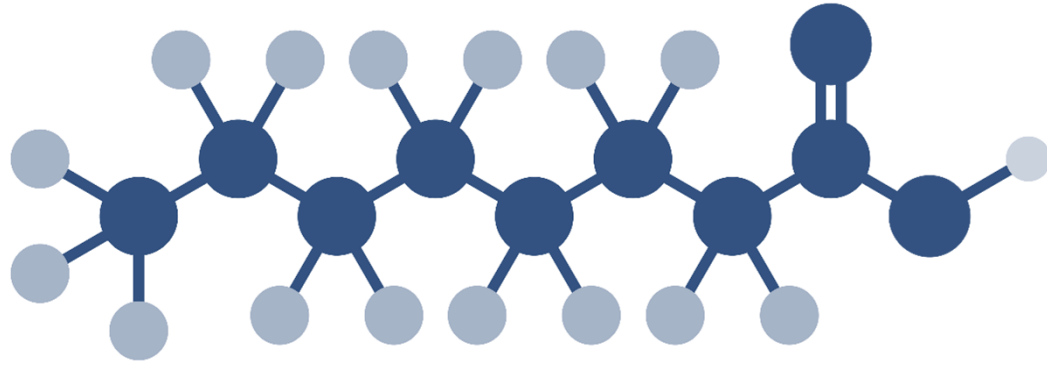


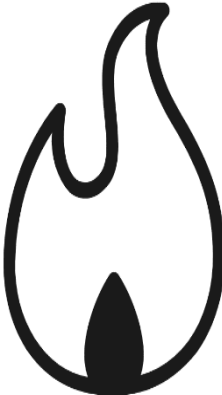
Diagram shows perfluorooctanoic acid (PFOA).



PFAS are resistant to



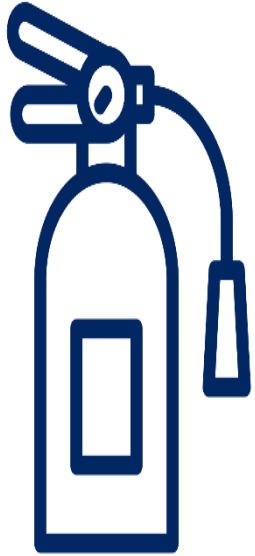
Water



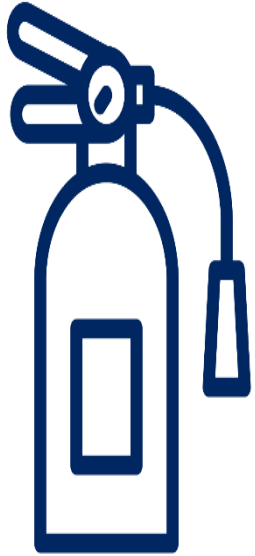


PFAS have been used in many products since the 1950s.





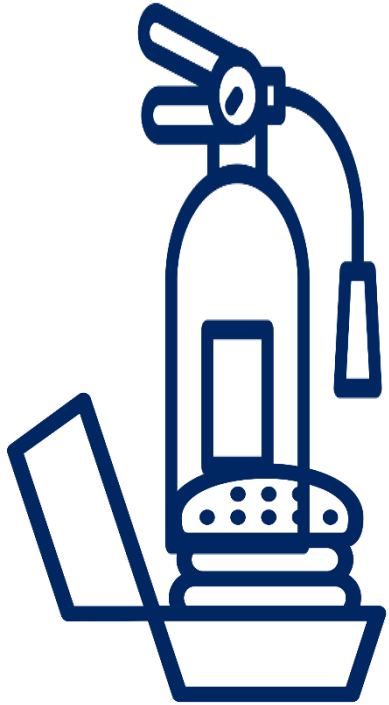
Firefighting  
foam



Firefighting  
foam



Non-stick  
cookware

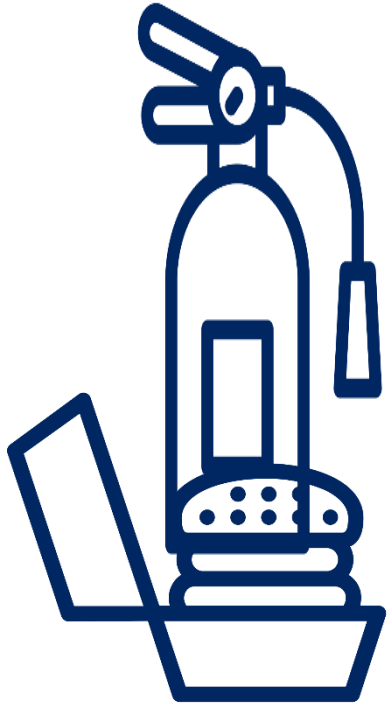


Firefighting  
foam

Food  
packaging



Non-stick  
cookware



Firefighting  
foam

Food  
packaging



Non-stick  
cookware



Water-  
resistant  
materials

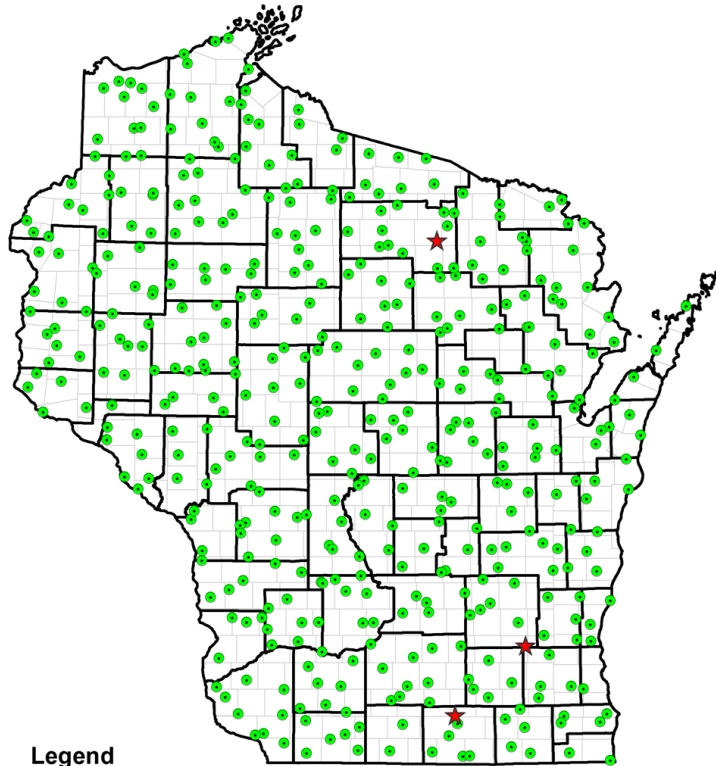
A doctor in a white coat and stethoscope is examining a patient's arm in a clinical setting. The doctor is holding a clipboard and looking at the patient's arm. The patient is sitting on a table. The background is a blurred clinical setting with a desk and a chair.

High levels of some PFAS  
can impact human  
health.




## **DNR project to sample statewide for PFAS in residences with private water supply wells:**

- **Goal to inform “ambient” PFAS occurrence in shallow groundwater**
- **State divided into 450 equal areas (124 square miles)**
- **Samples for PFAS testing collected summer/fall 2022**
- **Results to date show 3 samples above WI PFAS health guideline values**
- **Sample from Starks tested very high for PFAS**

PFAS Ambient Groundwater Private Well Project:  
Locations Sampled



**Legend**

-  Residence sampled
-  PFAS results over health guideline values (as of 12/2/2022)
-  Grid cell

## **Starks area geology**

- **approximately 40'-50' glacially deposited sand, gravel, clay, and silt**
- **"granite" bedrock below glacial deposits**

## **Starks area groundwater**

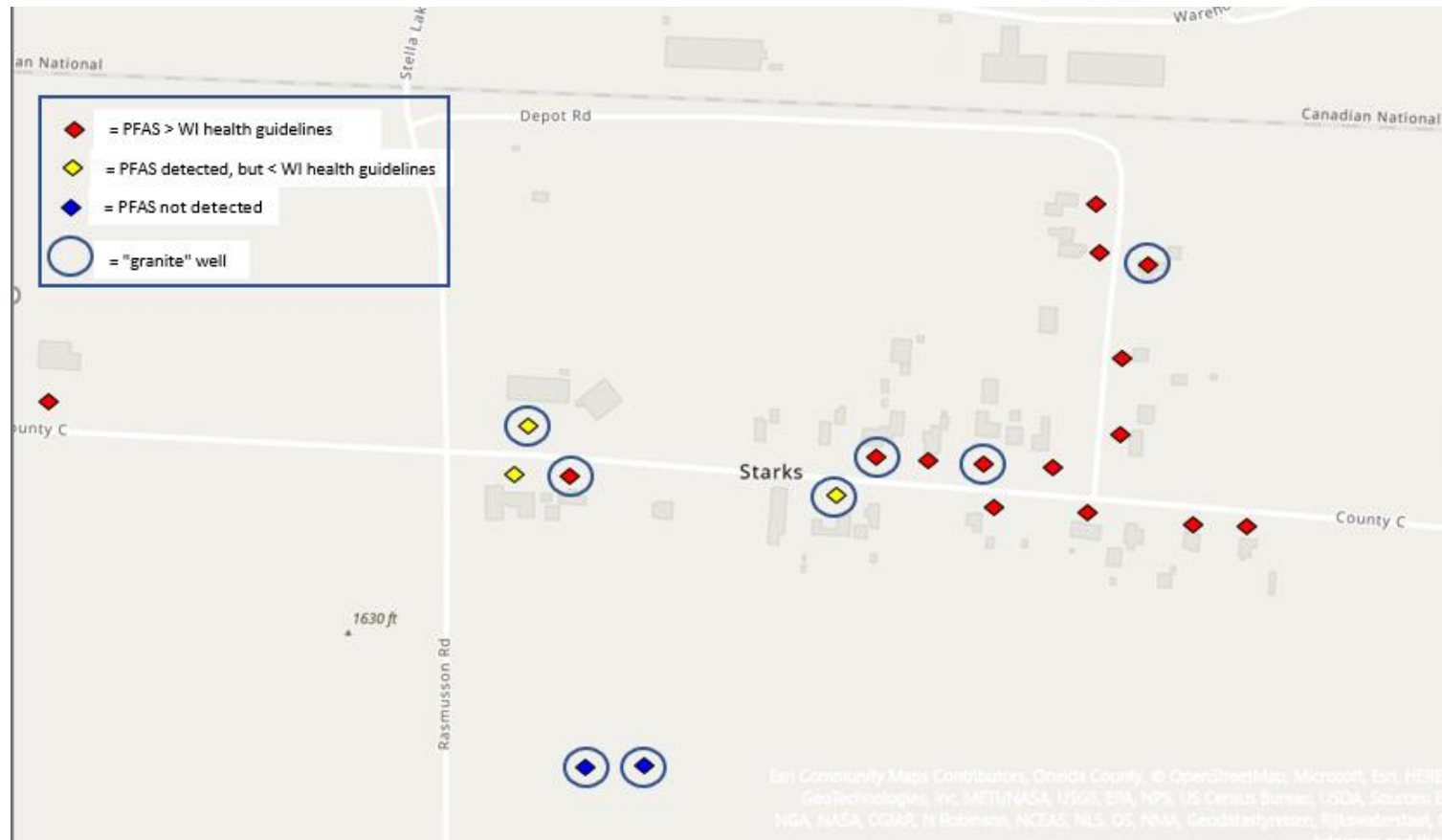
- **water table at about 15'-25' below ground surface**
- **regional groundwater flow estimated to be to the southwest**

## **Starks area well construction**

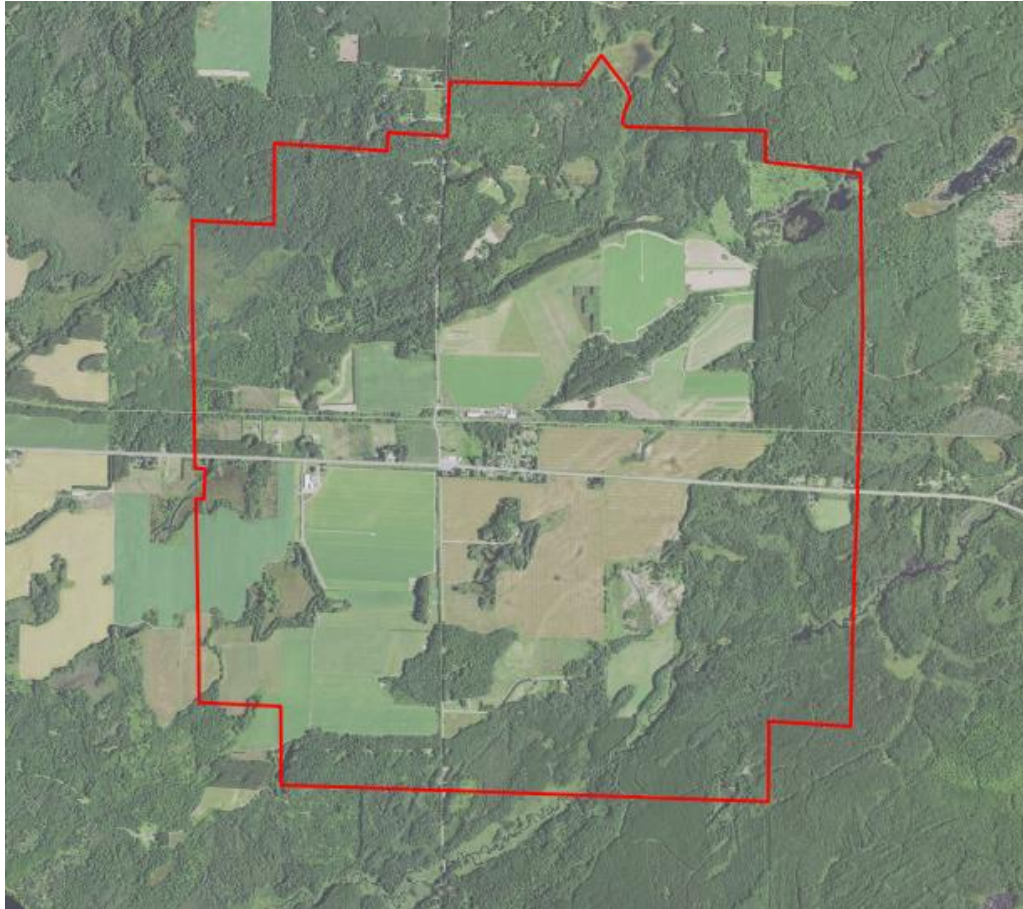
- **many wells constructed "shallow", in glacial deposits**
- **some wells constructed "deeper", into granite bedrock**



## PFAS samples collected in Starks and close vicinity



## Current PFAS sample collection in expanded area around Starks



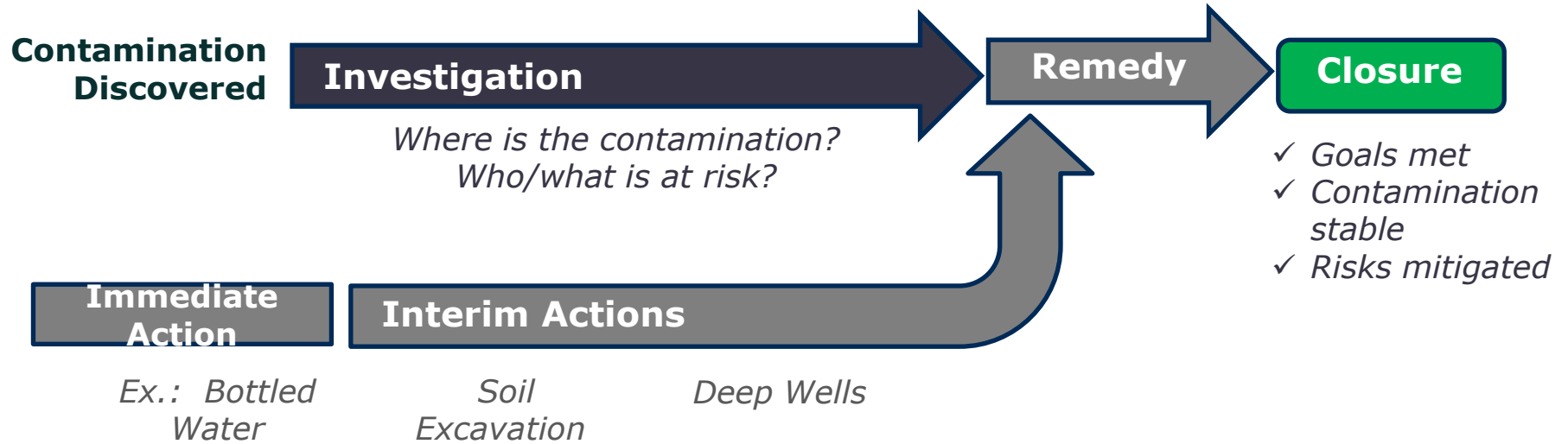
# Well Compensation Grants

- Income limit of \$100,000
- Up to \$16,000 per grant
- Must get grant approval before work is done or equipment purchased
- More information is needed before we can recommend new well construction
- Search for 'Well Compensation' at [dnr.wi.gov](http://dnr.wi.gov)

# Well Compensation Grants

- Treatment systems are eligible
- PFAS treatment equipment should be NSF/ANSI certified
- Treatment may not remove all contaminants
- Multi-stage treatment filters using granular activated carbon are effective
- The higher the concentration of PFAS, the more often the media will need to be replaced

# General Site Investigation Process



Conceptual drawing for illustration purposes only.

# Action Steps



Test your well for PFAS if DNR has contacted you.

# Action Steps



Test your well for PFAS if DNR has contacted you.

If PFAS levels are above DHS' health thresholds, use an alternative source of water for drinking, preparing beverages, and foods that take up a lot of water.

# Alternative water sources:



Bottled water that has been filtered or purified



# Alternative water sources:



Bottled water that has been filtered or purified



Water from a source that has been tested for PFAS and levels are low

# Alternative water sources:



Bottled water that has been filtered or purified



Water from a source that has been tested for PFAS and levels are low



Water from certified treatment device  
*if PFOA & PFOS are less than 1500 ng/L*

# Contact Information



[sarahp.yang@wi.gov](mailto:sarahp.yang@wi.gov)

608-266-9337



**Add appropriate  
contact info here**