UTAH DEPARTMENT of ENVIRONMENTAL QUALITY

DRINKING WATER

DDW PFAS Update

Utah Division of Drinking Water

WQ&HAP End of Year Meeting 2022

What are PFAS?

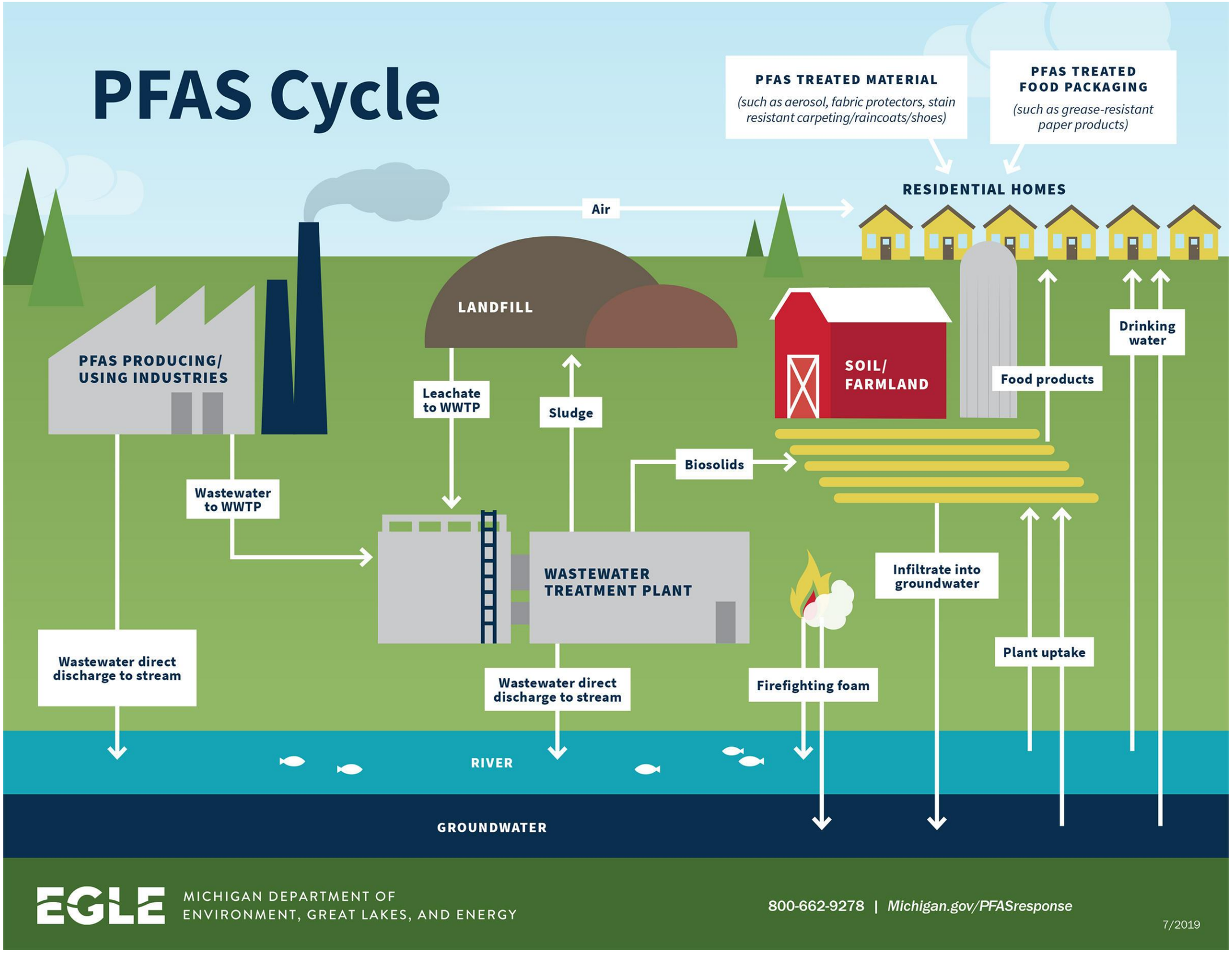
- Per- and polyfluoroakyl substances
- Used in non-stick cookware, stain-resistant textiles, waterproofing, coating on food wrappers, ski wax, consumer products, fire-fighting foam, other industrial applications




- Stable and do not degrade in the environment
- A family of 6,000+ compounds
- Analytical methods for detection of 29 of these compounds

Common Sources of PFAS

- Wastewater Treatment Plants (discharges from industrial users, infiltration from contaminated groundwater)
- Platers: Chemical fume suppressants, demisters, defoamers, wetting agents, surfactants
- Leather and fabric treaters, tanneries
- Paper and packaging manufacturers
- Landfills
- Centralized Waste Treaters
- AFFF fire fighting foam training sites, incident sites
- Groundwater cleanup sites (cleaners, former plating and automotive manufacturing, etc.)

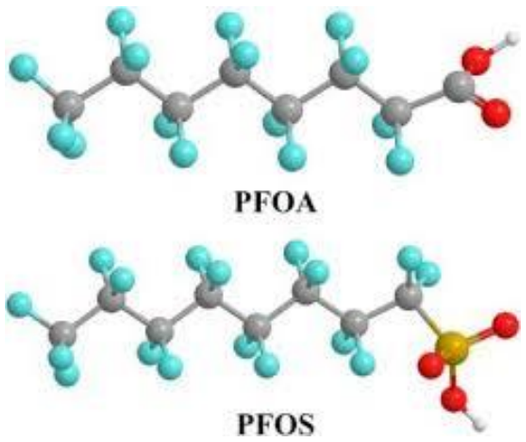

PFAS Cycle
PFAS TREATED MATERIAL
(such as aerosol, fabric protectors, stain resistant carpeting/raincoats/shoes)
PFAS TREATED FOOD PACKAGING
(such as grease-resistant paper products)
RESIDENTIAL HOMES
Air
LANDFILL
PFAS PRODUCING/ USING INDUSTRIES
SOIL/ FARMLAND
Drinking water
Food products
Leachate to WWTP
Sludge
Biosolids
Wastewater to WWTP
WASTEWATER TREATMENT PLANT
Infiltrate into groundwater
Plant uptake
Wastewater direct discharge to stream
Wastewater direct discharge to stream
Firefighting foam
RIVER
GROUNDWATER
EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
800-662-9278 | Michigan.gov/PFASresponse
7/2019

How might PFAS impact health?

- Most data available on perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA)
- Ingestion is the primary route of exposure
- PFAS are bioaccumulative, bigger compounds more than smaller
- Health impacts may include:
  - Interference with hormone function
  - Increase in cholesterol
  - Affect on immune system
  - Increase in cancer risk
- Some data on health impacts of other PFAS
  - PFNA, PFBA, PFHxS, GenX (PFPrOPrA), and PFBS

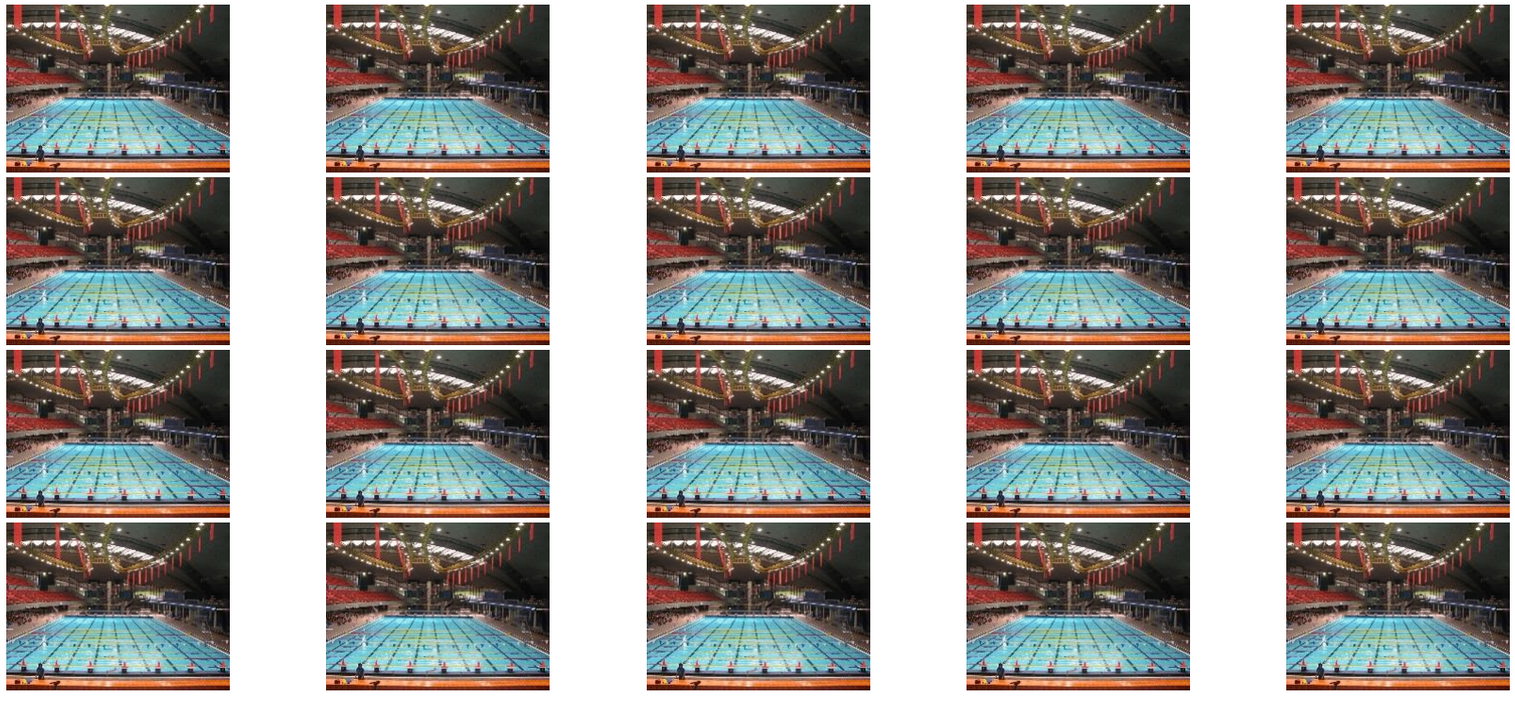
Current EPA Health Advisory Levels

- Lifetime health advisory
- Non-enforceable
- Non-regulatory
- *Interim* PFOS 0.020 ppt
- *Interim* PFOA 0.004 ppt
- GenX 10 ppt
- PFBS 2,000 ppt



What is a ppt?

- PFAS are measured in parts per trillion (ppt)
- 1 ppt is equivalent to 1 drop of water in 20 Olympic-sized swimming pools



State's PFAS Guidance

Compound	State	Level (ppt)	Type
PFOA + PFOS	NY	**10**	MCL
	AK, CO, DL, ME, NM, OH	**70**	Notification
PFOA	CA	**5.1**	Notification
	MI	**8**	MCL
	NH	**12**	MCL
	NJ	**14**	MCL
	MN	**35**	Guidance
PFOS	CA	**6.5**	Notification
	MN	**15**	Guidance
	NH	**15**	MCL
	MI	**16**	MCL
PFOA + PFOS	NY	**10**	MCL
	AK, CO, DL, ME, NM, OH	**70**	Notification
PFNA + PFOS	NJ	**13**	MCL
6 PFAS Compounds	MA	**20**	MCL
5 PFAS Compounds	VT	**20**	MCL
	CT	**70**	Notification

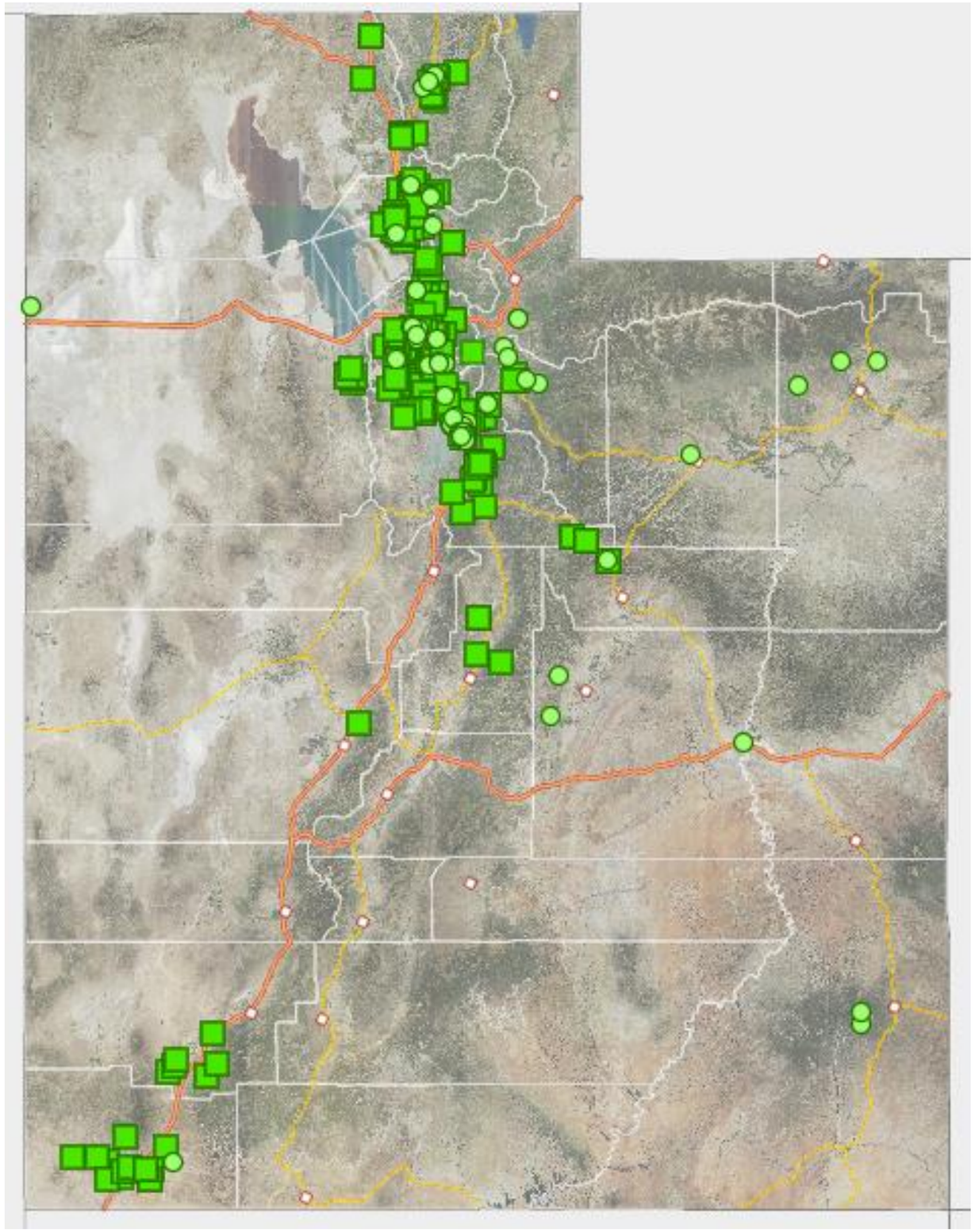
State's PFAS Guidance

Compound	State	Level (ppt)	Type
PFNA	MI	**6**	MCL
	NH	**11**	MCL
	OH	**21**	Guidance
PFHxS	NH	**18**	MCL
	MN	**47**	Guidance
	MI	**51**	MCL
	OH	**140**	Guidance
GenX	NC	**140**	Guidance
	OH	**700**	Guidance
PFBS	MI	**420**	MCL
	MN	**2,000**	Guidance
	OH	**140,000**	Guidance
PFBA	MN	**7,000**	Guidance
PFHxA	MI	**140,000**	Guidance
HFPO-DA	MI	**370**	MCL

PFAS in Utah – Monitoring to-date

- UCMR3 required monitoring at POE from 2013-2015 for:
  - **PFNA 20 ppt**
  - **PFOS 40 ppt**
  - **PFOA 20 ppt**
  - PFHpA 10 ppt
  - PFBS 90 ppt
  - PFHxS 30 ppt
  - Systems serving 10,000 or more
- 2020-2021: Utah DDW and DWQ risk assessment and sampling

Utah PFAS Results



- Current data has been compared to previous HAL of 70 ppt for PFOS+PFOA, reanalysis in progress
- Data generally indicates low risk for PFAS exposure from drinking water in Utah
- Some PFAS detects associated with ski wax
- Sampling is ongoing

- Visit pfas.Utah.gov for more information and interactive map

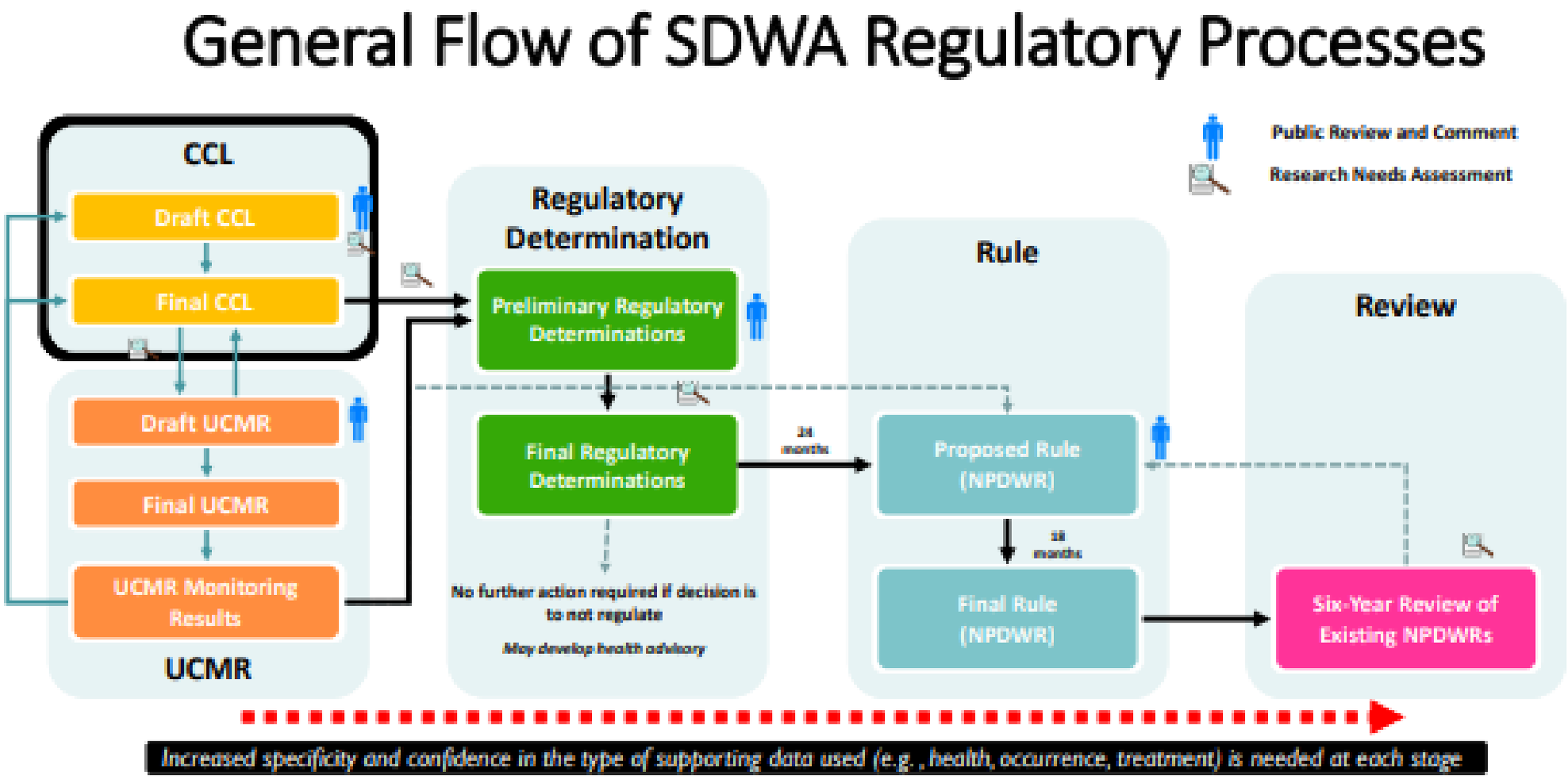
PFAS in Utah - UCMR5

- Contaminants:
  - 29 PFAS compounds
  - Lithium
- Water systems:
  - All PWS serving more than 3,300 people
  - Representative sample of PWS serving less than 3,300
- Monitoring:
  - 12 months from 2023 through 2025
  - POEs

How do contaminants become regulated in drinking water?

- Safe Drinking Water Act (SDWA) criteria
  - Negative health impacts
  - Occurs often in public water systems at levels that impact health
  - Regulation will decrease human health risks
- Rules vs. Health Advisories

Regulatory Process

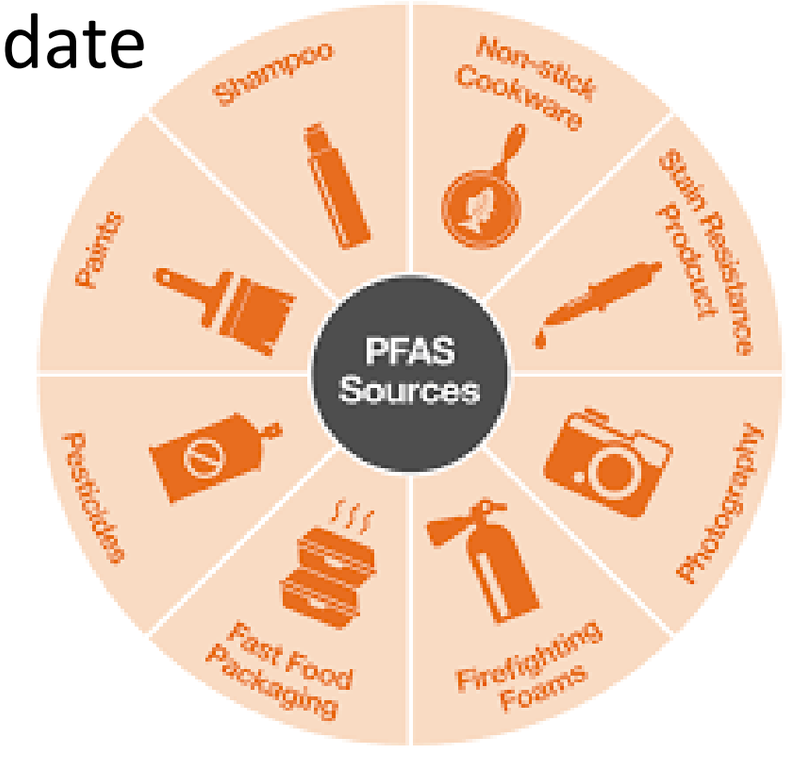


CCL4 Regulatory Determination

- February 22, 2021 – final CCL4 determination
  - PFOS and PFOA will be regulated
  - Other PFAS may be considered during the rule-making process
- Draft rule expected Fall 2022 (with OMB), with final rule Fall 2023

PFAS Bottom Line

- EPA will be regulating PFAS in drinking water
- EPA is also pursuing actions under CERCLA, RCRA, and TRI programs
- UCMR5 will include PFAS, at much lower levels of detection than UCMR3
- Minimal detections in Utah drinking water to date



DEQ TAKES AIM at PFAS

PFAS are a group of man-made chemicals used in a wide variety of applications and industries. They are characterized by their persistence in groundwater, surface water, soil, and can be ingested by and build up inside animals and humans.

Through monitoring, DEQ has found a low risk for PFAS in Utah's drinking water.

HEALTH EFFECTS

Exposure to PFAS has been linked to health concerns including cancer, hormone disruption, liver and kidney toxicity, harm to the immune system, and reproductive and developmental toxicity.

SOURCES *of* CONTAMINATION

Many products are made with PFAS including food packaging; stain repellent; non-stick cookware; water repellent clothing; aerospace, medical, and automotive components; and specialty items such as fire fighting foams and ski wax.

DRINKING WATER

All test results from Utah drinking water fell well below Environmental Protection Agency advisory limits for the PFAS measured, indicating a low risk for human exposure to PFAS through Utah's drinking water.

0

Water samples measured with PFAS concentrations above health advisory levels

68%

Percent of Utahns served by a water system sampled for PFAS since 2020

4 years

Time it will take for the level of certain types of PFAS in the body to go down by half

6,000

Synthetic chemicals in the PFAS family

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Questions?