



# Briefing for the Maine Grocers & Food Producers Association

March 15, 2022

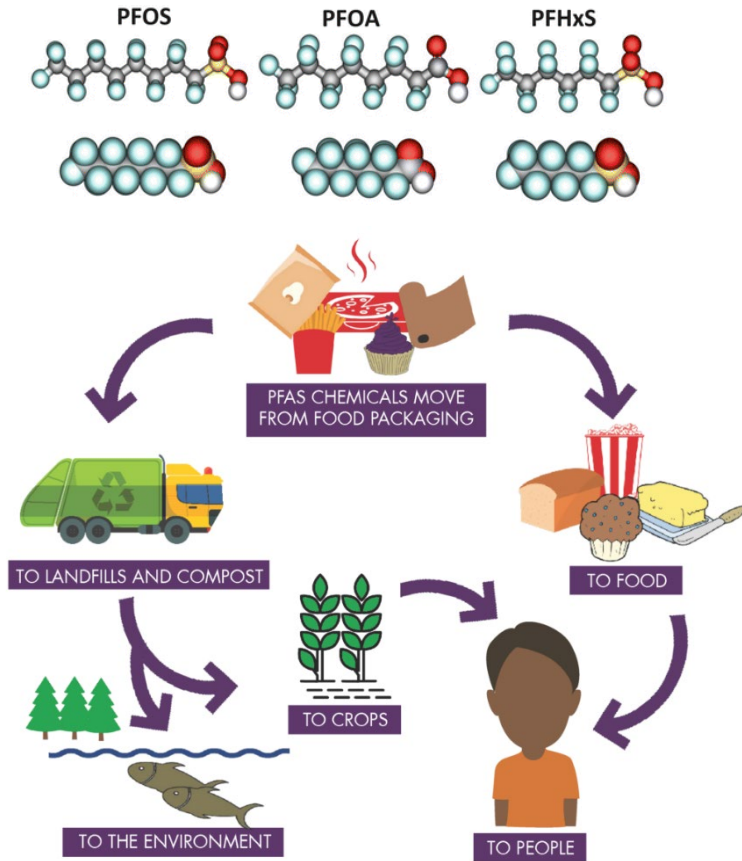
Susanne Miller  
Director Bureau of Remediation & Waste Management

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

*Protecting Maine's Air, Land and Water*

# What are PFAS & Where are they?

PFAS = per- and poly fluoroalkyl substances



- Any member of the class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom
- Found in ME in
  - Groundwater and Surface Water
  - Active/Closed Landfills
  - Sludge/Septage Land Application Sites
  - Contaminated/Remediation Sites (AFFF often the source)

# Key PFAS Guidelines/Regulations

**Public Resolve, 2021, Chapter 82, Effective June 21, 2021:**  
*Resolve to Protect Consumers of Public Drinking Water by Establishing MCLs for Certain Substances and Contaminants*

**Maine's Interim  
Drinking Water Std  
= 20 ppt  
for the sum of six PFAS:  
PFOA, PFOS, PFNA, PFDA, PFHpA & PFxHS**

Final Rule to be developed by Maine Drinking Water Program by  
**June 1, 2024**



# Key PFAS Guidelines/Regulations

- Screening levels
  - Soils
  - Recreational fishing
  - Milk
  - Beef
  - Dairy (to hay, to corn)
- Developed in coordination with Maine CDC and Maine DACF

## MAINE PFAS SCREENING LEVELS

June 2021

Compound	Soil Remedial Action Guidelines <sup>1</sup> (mg/kg)					
	Leaching to Groundwater	Residential	Commercial Worker	Park User	Recreator Sediment	Construction Worker
PFBS	7.1	1,700	22,000	4,900	5,700	51,000
PFOS	0.0036	1.7	22	4.9	5.7	5.1
PFOA	0.0017	1.7	22	4.9	5.7	5.1

Soil Beneficial Use (ng/g, dry weight)	
Compound	Beneficial Use
PFBS	1,900
PFOS	5.2
PFOA	2.5

Recreational Angler RAGs (mg/kg wet weight)	
Compound	Fish Tissue
PFBS	52
PFOS	0.052
PFOA	0.052

Interim Drinking Water Standard (ng/l or ppt)	
Compound	Residential
PFOS + PFOA + PFHpA + PFNA + PFHxS + PFDA	20

Milk (ng/l or ppt)	
Compound	Action Level
PFOS	210

Beef (ng/g)	
Compound	Action Level
PFOS	3.4

	Dairy <sup>2</sup> - PFOS Crop-Specific Soil Screening Levels (ng/g dry weight)		
	Soil to Hay to Milk Screening Level	Soil to Corn-Silage to Milk Screening Level	Soil to Hay and Corn-Silage to Milk Screening Level
Grass-Based Farm	6.8	120.0	6.4
Average Maine Farm	13.8	54.8	11.0

Helpful Conversions: 0.000001 ppm = 0.001 ppb = 1 ppt

Parts Per Million (ppm)	Parts Per Billion (ppb)	Parts Per Trillion (ppt)
1 milligram/kilogram (mg/kg) = 1 ppm	1 microgram/kilogram (µg/kg) = 1 ppb	1 nanogram/kilogram (ng/kg) = 1 ppt
1 milligram/liter (mg/l) = 1 ppm	1 microgram/liter (µg/l) = 1 ppb	1 nanogram/liter (ng/l) = 1 ppt
1 microgram/gram (µg/g) = 1 ppm	1 nanogram/gram (ng/g) = 1 ppb	1 picogram/gram (pg/g) = 1 ppt

<sup>1</sup> Maine Department of Environmental Protection (Maine DEP), [Maine Remedial Action Guidelines \(RAGs\) for Contaminated Sites](#), effective May 1, 2021.

<sup>2</sup> Maine DEP, [Maine Solid Waste Management Rules: Beneficial Use of Solid Wastes, 06-096 C.M.R. ch. 418](#), Appendix A, last amended July 8, 2018.

<sup>3</sup> Maine DEP, [Maine RAGs for Contaminated Sites](#), effective May 1, 2021.

<sup>4</sup> Resolve 2021, ch. 82, [Resolve To Protect Consumers of Public Drinking Water by Establishing Maximum Contaminant Levels for Certain Substances and Contaminants: Emergency](#), effective June 21, 2021.

<sup>5</sup> Maine Center for Disease Control and Prevention (CDC), [Action Levels for PFOS in cow's milk](#), Memorandum to Rachael Fiske, Maine Department of Agriculture, Conservation and Forestry (DACF), from Andrew Smith, SM, ScD and Thomas Simones, PhD, Maine CDC, March 28, 2017.

<sup>6</sup> Maine CDC, [Action Levels for PFOS in beef for use in determining whether beef at a farm is adulterated](#), Memorandum to Nancy McBrady, Maine DACF, from Andrew Smith, SM, ScD and Thomas Simones, PhD, Maine CDC, August 4, 2020.

<sup>7</sup> Maine CDC, [Derivation of PFOS soil screening levels for a soil-to-fodder-to-cow's milk agronomic pathway](#), September 16, 2020.



MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

[www.maine.gov/dep](http://www.maine.gov/dep)

# PFAS Soil and Groundwater Investigation



- **Public Law 2021, Chapter 478, Effective October 18, 2021: *An Act to Investigate PFAS Substance Contamination of Land and Groundwater***
- Requires DEP to conduct **soil and water** investigation for contamination derived from application of sludge and septage



# PFAS Investigation Timelines

- Investigation likely to speed up as DEP gains experience; more contracts in place
- Difficult to know where expanded, step-out sampling will be necessary
- Staff moving as fast as possible!
- **Narrow Focus – Soil and Water**
- ½ investigation to be completed by 2024; all 2025
- Multiple samples at each site; weather and other conditions impact pace



## Estimated

- **Tier I sites: Through early 2023**
- **Tier II sites: 2023 – 2024**
- **Tier III & IV sites: 2024 – 2025**





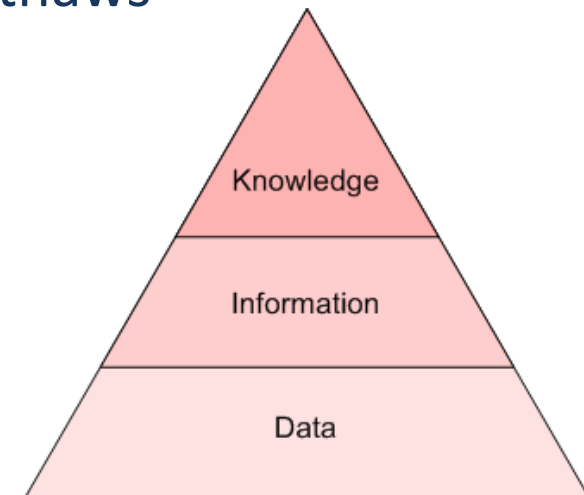
# PFAS Investigation Process

1. In depth review of project licenses/annual reports to determine where land applications really took place
2. Develop a sampling & analysis plan (SAP) for each site
3. Contact landowner/homeowner to schedule sampling events
4. Coordinate with the DACF for farm-specific considerations
5. Conduct sampling event and deliver samples to the lab
6. Obtain and review lab results for data quality and irregularities
7. Provide landowner/homeowner with laboratory results
8. Evaluate data to determine need for stepped out SAP
9. Elevated soil results: DACF works with landowners/farmers
10. Elevated water results: DEP/DWP provide clean drinking water



# What we've learned so far

- As of February 28, over 600 **water** samples taken:
  - 60% statewide fall *under* the state's interim drinking water standard
  - 7% are over 1,000 ppt; and some at really high levels (40,000 ppt is the highest so far)
- To soon for any statistics on soil sampling – soil sampling on hold until Spring – will ramp up once ground thaws
- Some landowners/farmers and homeowners choosing to self test with varying results
- Key to know is that PFAS contamination is not uniform throughout Maine.
- We anticipate there will be “hot” spots like Fairfield, but this will not be statewide.





# PFAS in food Packaging

- 32 M.R.S. § 1733 (3-B), effective June 13, 2019: *An Act To Protect the Environment and Public Health by Further Reducing Toxic Chemicals in Packaging*
- DEP rules may prohibit use of packaging with intentionally introduced PFAS if: safer alternative available in sufficient quantity and at comparable cost.
- WA study – wraps & liners, food boats, plates, and pizza boxes
- ME – Market Assessment RFP posted 2/11/2022 – RFP #202112194
- Rulemaking will follow – major substantive rule; stakeholder input critical



# Intentionally Added PFAS in *all* products



- **Public Law, Chapter 477, effective July 15, 2021:**  
*An Act to Stop PFAS Substances Pollution*
- Manufacturers of *all* products with intentionally added PFAS must notify the DEP by 1/1/2023
  - Waivers and extensions may be granted
- Notifications will be collected and integrated into the Interstate Chemicals Clearinghouse (IC2) [www.theic2.org](http://www.theic2.org)
- For a product being offered for sale and for which the DEP believes there is intentionally added PFAS DEP may require certificate of compliance from manufacturer



# Intentionally Added PFAS in *all* products

- Some products with intentionally added PFAS are banned from sale/distribution starting 1/1/2023
  - Carpets & rugs
  - Fabric treatments
- All products with intentionally added PFAS (unless the PFAS is determined by rule to be unavoidable) will be banned for sale/distribution starting 1/1/2030
- Rules will be developed to determine what is banned and what is unavoidable use
- Rules will be major substantive and stakeholder input will be part of the process
- New DEP staff will be hired soon – they will be key contact





**[Contact Maine DEP at: pfas.dep@maine.gov](mailto:pfas.dep@maine.gov)**

**[www.maine.gov/dep/spills/topics/pfas/index.html](http://www.maine.gov/dep/spills/topics/pfas/index.html)**

