



Briefing for the Joint Standing Committee on Agriculture, Conservation and Forestry

February 17, 2022

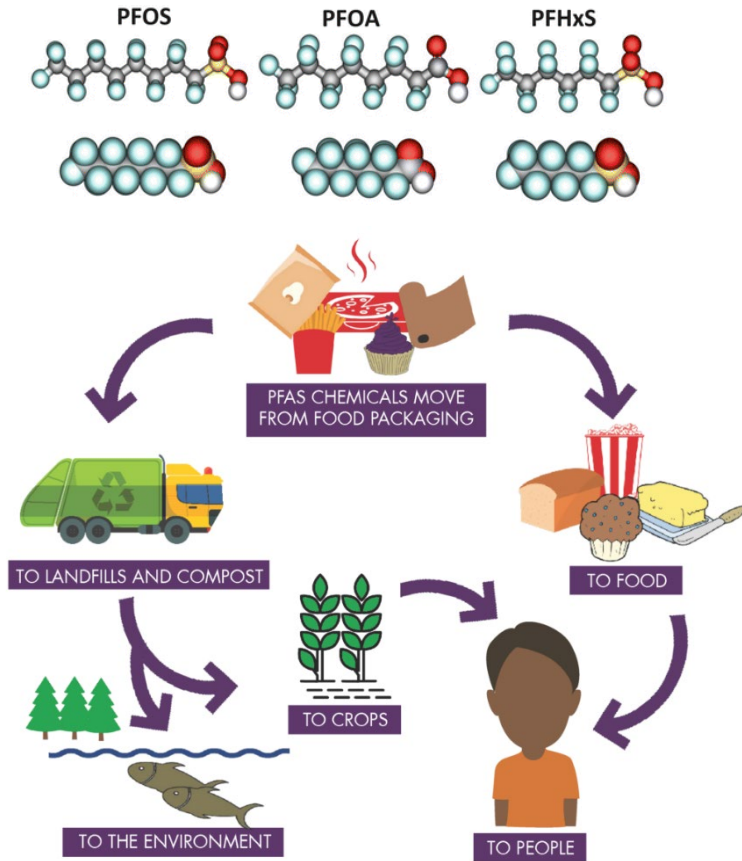
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MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

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)

How are PFAS being managed in Maine?

- 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; and Coordinate with Maine Department of Agriculture

MAINE PFAS SCREENING LEVELS (June 2021)

Compound	Leaching to Groundwater	Soil Remedial Action Guidelines (mg/kg)			Recreator Sediment	Construction Worker
		Residential	Commercial	Park User		
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)		Recreational Angler RAGs (mg/kg wet weight)	
Compound	Beneficial Use	Compound	Fish Tissue
PFBS	1,900	PFBS	52
PFOS	5.2	PFOS	0.052
PFOA	2.5	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)		Beef (ng/g)	
Compound	Action Level	Compound	Action Level
PFOS	210	PFOS	3.4

Dairy - 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
Grass-Based Farm	6.8	120.0
Average Maine Farm	13.8	54.8

Soil to Hay and Corn-Silage to Milk Screening Level		
	Screening Level	Screening Level
Grass-Based Farm	6.8	11.0
Average Maine Farm	13.8	54.8

Helpful Conversions: 0.00001 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

© Maine Department of Environmental Protection (Maine DEP), Maine Remedial Action Guidelines (RAGs) for Contaminated Sites, effective 1/1/2021. Remedial Use of Solid Wastes, 06-095-C-M.R. ch. 418, Appendix A, last amended July 8, 2020. Screening Levels for Certain

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



Prioritizing Sludge** Sampling Locations

Breakdown of Tiers			
www.maine.gov/dep/spills/topics/pfas/index.html			
Tier	Land application of sludge* (volume - cy)	Other Considerations	Nearest homes
I	10,000 or more		Within ½ mile
II	5,000 - 10,000	Site may be downgraded to Tier III OR elevated to Tier I	
III	Less than 5,000	Site may be elevated to Tier I	
IV	Information gathered to date indicates no sludge was land applied. More research/time needed to verify. Once verified, these sites may be placed in another Tier as appropriate using the above criteria		

* PFAS likely to be present in sludge based on an evaluation of known sources or contributors of wastewater at a treatment facility.

** Septage will be handled separately from sludge.



PFAS Investigation Timelines



Estimated

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

- Timelines estimated - not exact
 - Investigation expected to speed up as DEP gains experience
 - Difficult to know where expanded, step-out sampling will be necessary, this will impact pace of investigation
 - Staff are working as fast as possible!



PFAS Investigation Timeframes

- Half of all sites must be sampled by end of 2024; all by end of 2025
- Extremely fast-paced! Narrow focus – soil and water
- Perspective -- 208 weeks between 1/1/2022 and 12/31/2025
- Approximately 3.5 sites per week (water and soil) by each project team under the best of circumstances
 - Multiple samples are obtained in each field location
 - Weather conditions/seasons and other factors will impact pace



PFAS Investigation Process

1. In depth review of project licenses/annual reports to determine where land applications really took place
2. Develop an initial sampling & analysis plan (SAP) for each site
3. Contact landowner/homeowner to schedule sampling events
4. Coordinate with the DACF to determine if additional considerations or sampling required for landowners
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



PFAS Post-investigation Process

- Elevated soil results:
 - DEP coordinates with DACF regarding lab results
 - DACF coordinates with landowners to discuss next steps
 - DEP and DACF process still being refined
- Elevated residential water results:
 - DEP coordinates with homeowners to discuss lab results
 - Bottled water provided until filtration systems can be installed and maintained
 - Farm water systems; coordinate with DACF
 - Drinking water lines; coordinate with DWP





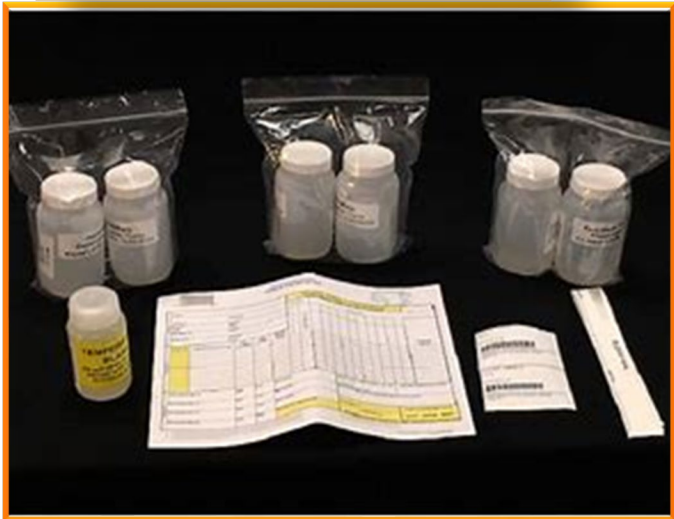
Environmental Chemistry
 Chair of Quality
 Web Site: www.maine.gov/dep

07/24/02
 02/08/03
 03/10/03
 04/15/03

Client Name		Job No.	
Project No.		Job No.	
Site:	Site No.	Site No.	Site No.
City:	City:	City:	City:
State:	State:	State:	State:
Project Name			
Date of Sampling		Sample to be analyzed	
Please check appropriate boxes: <input type="checkbox"/> Metals <input type="checkbox"/> PCBs <input type="checkbox"/> Dioxins/Furans <input type="checkbox"/> Other			
Site Sample #	Depth	Depth	Remarks
Number of Samples	Date	By	Checked by
Note: When sampling equipment is "Not Used", "Needs Calibration", "Not Checked", "Other" indicate in Remarks.			

Self-Testing

- DEP can't get to every site at the beginning despite concerns!
- For sites that haven't been scheduled:
 - Private drinking water wells can be tested by individual homeowners – guidance is available on DEP website
 - Soil sampling, sampling of animal tissue, sampling of agricultural products is more challenging and will require assistance from the Department of Agriculture, Conservation and Forestry



Interagency Coordination

- DEP is coordinating with several different agencies
 - Assistance to Farms and Agriculture (DACF)
 - Health Impacts and risk communication (CDC)
 - Public Drinking Water lines, public water systems (DWP)
 - Fish, Wildlife, Game and recreational impacts (IF&W)
- Agencies meet regularly
- Not all agency mission/goals align perfectly – some confusion for the public
- Inter-agency website expected early Summer





[Contact us at: pfas.dep@maine.gov](mailto:pfas.dep@maine.gov)

www.maine.gov/dep/spills/topics/pfas/index.html

