MAINE DEPARTMENT OF
AGRICULTURE
CONSERVATION
& FORESTRY

Saving America's Working Lands

American Farmland Trust Conference

April 24, 2025

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www.maine.gov/dacf

Agenda

- What are PFAS?
- Why are PFAS in agriculture?
- What are the health impacts?
- Maine & PFAS – what did we do?
- What have we learned
- What we do
- Mitigation examples
- PFAS Fund
- Parting thoughts

What are PFAS?

- Per- and Poly-fluoroalkyl substances: thousands of synthetic fluorinated chemicals.
- Extremely strong bond between fluorine and carbon; takes a long time to break down (e.g., “forever chemicals”)
- Used widely in products since the mid-20th century.
- Resist water, stains, heat, & grease.
- Found in clothing, textiles, furniture, fabric, food packaging, carpets, cookware, electronics, makeup….

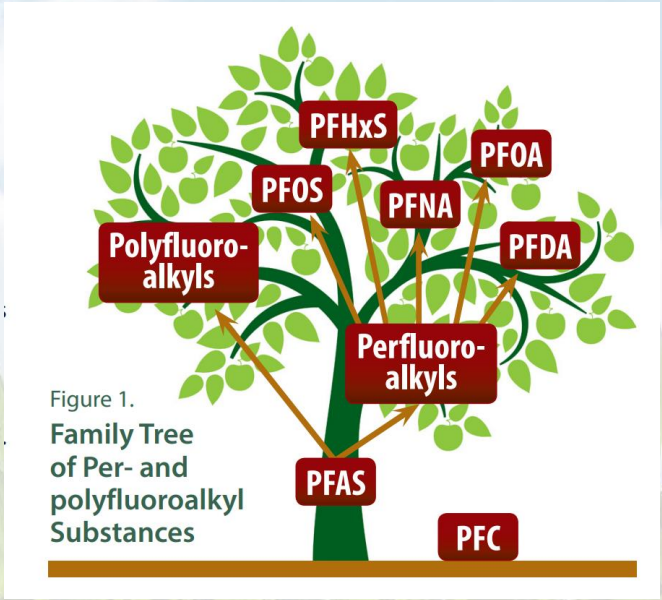
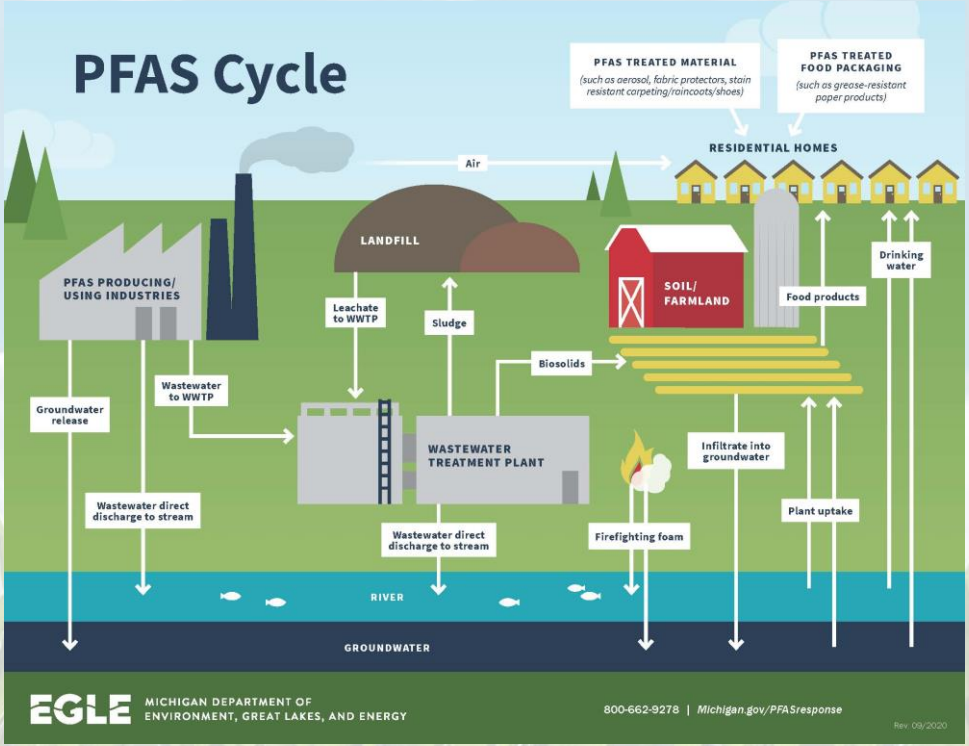


Figure 1.
Family Tree of Per- and polyfluoroalkyl Substances

Why are we finding PFAS in agriculture?

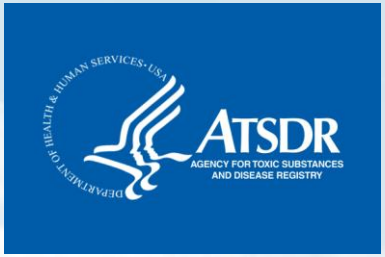
- PFAS are present in wastewater, septic tanks, and treatment plants.
- PFAS has been found at former military sites, closed unlined landfills, and in firefighting foam.
- Biosolids containing PFAS was land applied → Found in groundwater and soils.
- Can enter plants → animals → humans



What are the health impacts?

Potential health effects from exposure are:

- Altered immune and thyroid function
- Liver disease
- Kidney disease
- Kidney and testicular cancer
- Increases in cholesterol levels
- Lower antibody response to some vaccines
- Pregnancy-induced hypertension and preeclampsia



Maine & PFAS

2016: Discovery of impacted dairy farm.

2019: Governor Mills PFAS Task Force created.

2020: Retail milk testing identifies second dairy farm with high PFOS. Third dairy discovered.

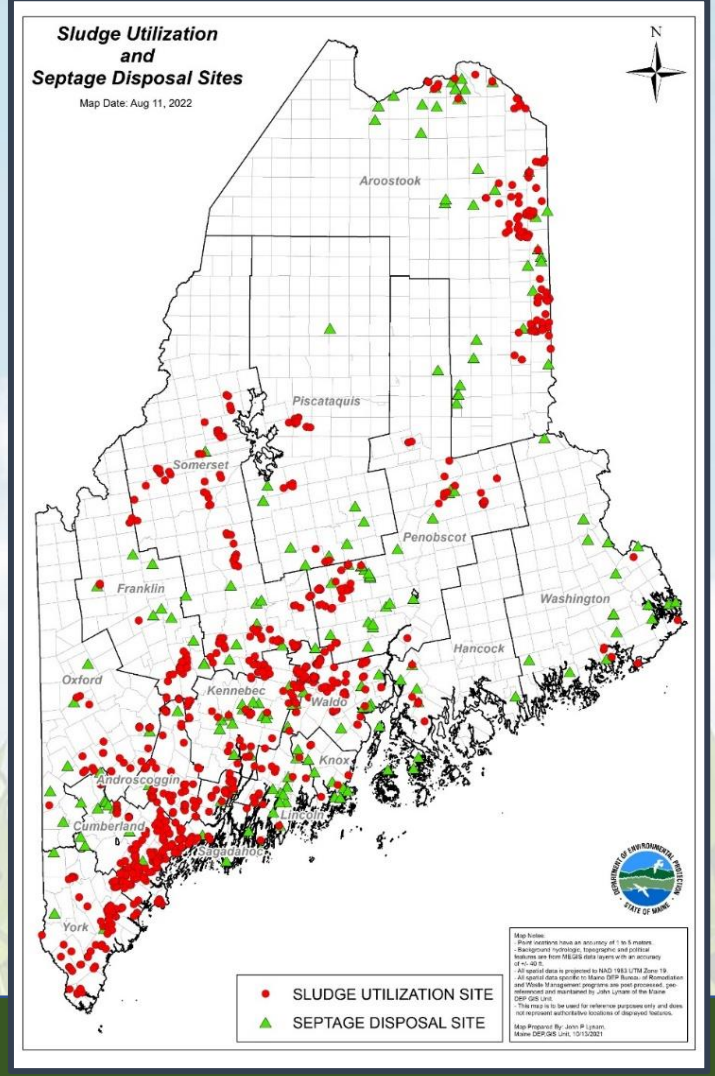
2021: Legislature approves budget for multi-agency response.

'22-'25: DACF builds PFAS Response and PFAS Fund programming

Robert F. Bukaty/ AP

What We've Learned

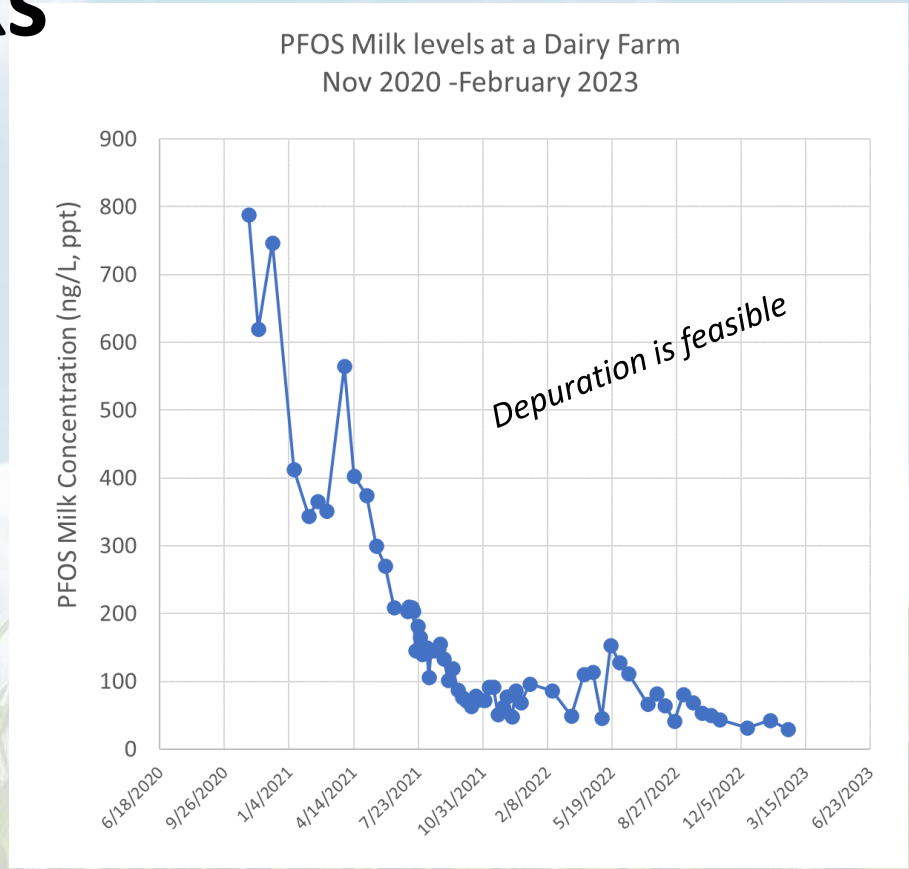
- Most farms ***can continue farming***.
- Impacts vary considerably from one property to the next. Site specifics matter.
- Farms with the highest levels of contamination were found 2020-2022.
- Currently finding farms with **lower levels** of contamination.
- ***Every Farm is Different.***



PFAS Response Works

- Not all PFAS are the same
- Animals can depurate
- Some crops can grow in impacted soil

Differing PFOS Uptake By Vegetables		
Little	Some	More
Asparagus	**Arugula**	**Lettuce**
Bok Choy	**Carrots**	**Spinach**
Corn (kernels)	**Kale**	
Green Beans	**Swiss Chard**	
Peppers		
Potatoes		
Rhubarb		
Broccoli		



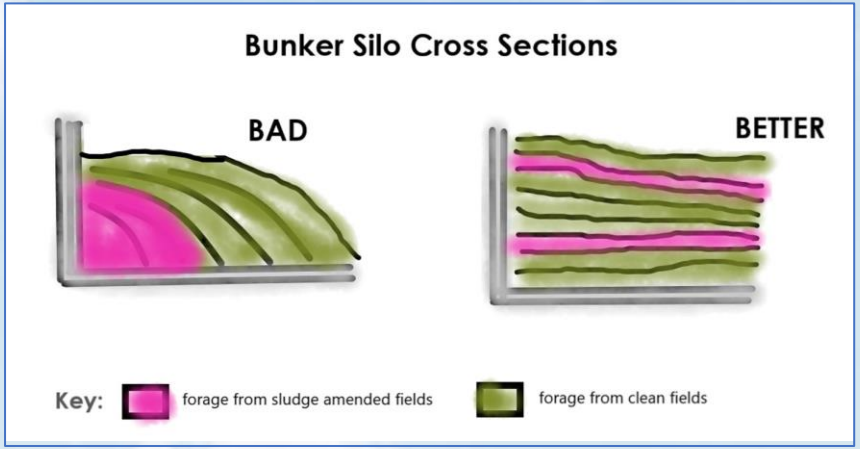
DACF PFAS Response

- **Field-based investigations**
  - Carefully review site, farm operation specifics, inputs, products, animal management, etc.
- **Sampling**
  - Create robust sampling plan, take and pay for samples; ongoing/routine sampling as needed.
- **Result(s) interpretation** Results validated and assessed inter-agency.
- **Mitigation recommendations** presented with follow-up testing. CDC input.
- **Financial assistance** to farms. Infrastructure, feed, inputs, etc.

9 staff
Broad range of expertise
Multi-agency effort
$3M+ in support
30,000 staff hours
3,000+ samples

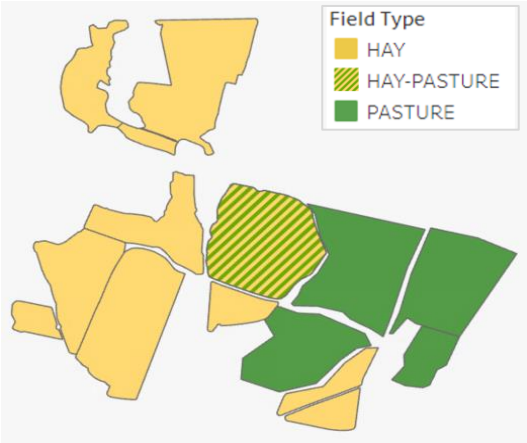
Mitigation Examples

- Identify and label feed sources.
- Store feed in cross sections to avoid hot spots.
- Provide the cleanest feed to animals in the months prior to processing. This may allow continued utilization of more fields.
- Focus production on plants with lower uptake or ornamental crops.
- Specific dairy/hay guidance available online

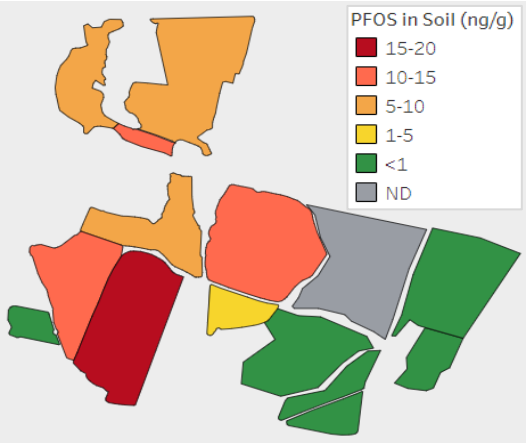


Assessing Feed, Pasture, and Water Sources Informs Farming Practices

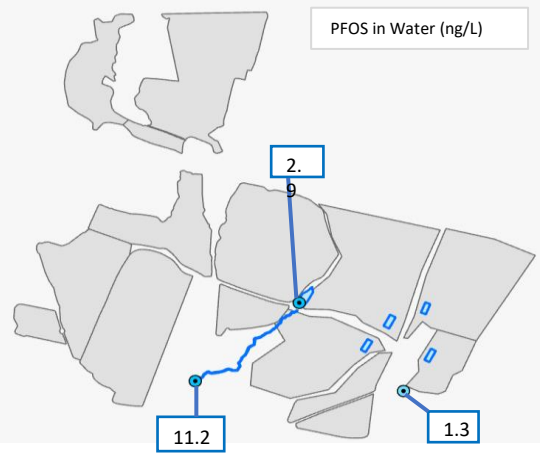
Farm Field Use

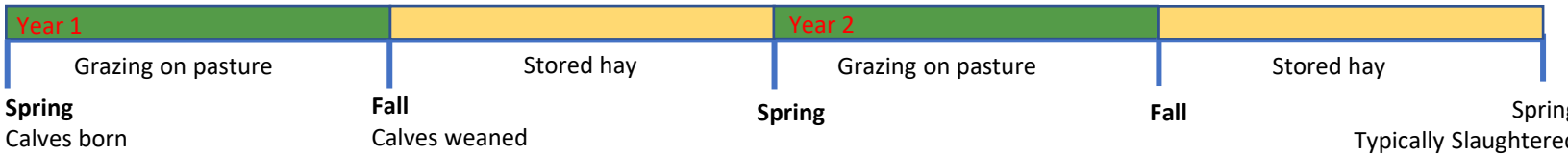


Soil PFOS



Water PFOS



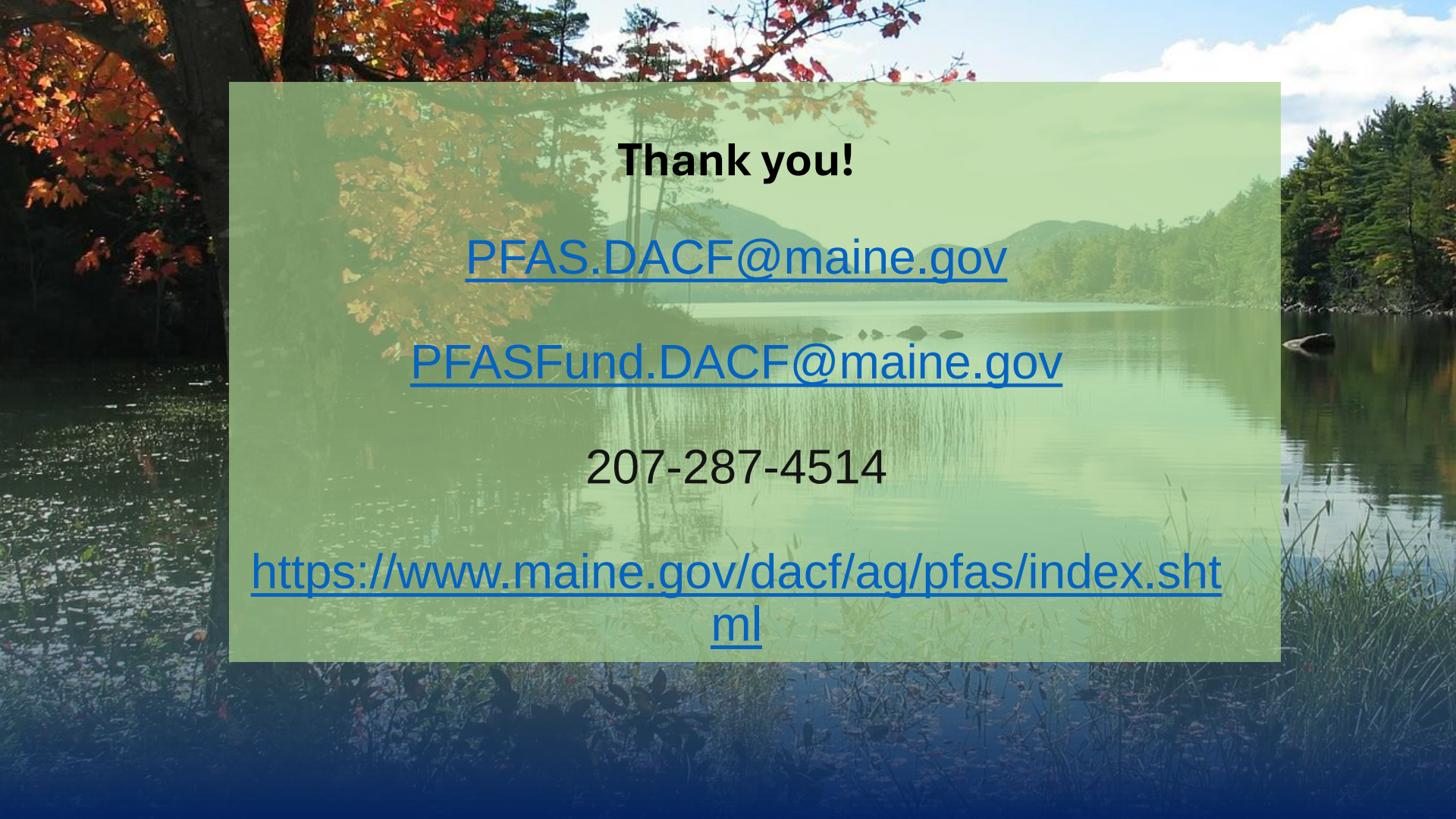


Fund to Address PFAS Contamination (the PFAS Fund)

- $60 Million Fund created by Maine Legislature in 2022
- Provides direct financial support to PFAS-impacted commercial farmers ($2.28M since March ‘24);
- Purchases and manages PFAS-contaminated ag land
  - Acquired first property in February 2025
- Funds applied agricultural research to support on-farm decisions; and
- Supports access to blood testing, mental health services, and other health-related initiatives.

Parting Thoughts…

- Understand the basics of PFAS.
- Coordinate with your colleagues and partners (incl. farmers!).
- Risk communication: emerging chemical and there is a lot we don’t know. Research is ongoing.
- Stress the need to gather and assess data/facts on the ground.
- Every farm is different!
- ***PFAS doesn’t have to be the end of a farm***.



Thank you!

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207-287-4514

https://www.maine.gov/dacf/ag/pfas/index.shtml