

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO) **R22-18**
GROUNDWATER QUALITY) **(Rulemaking – Public Water**
35 ILL. ADM. CODE 620) **Supply)**
)

NOTICE OF FILING

PLEASE TAKE NOTICE that on December 5, 2022, we electronically filed with the Clerk of the Pollution Control Board of the State of Illinois, Exhibits for Oral Statement by Ned Beecher for PFAS Regulatory Coalition, copies of which are attached hereto and served upon you.

Dated: December 5, 2022

Respectfully submitted,

PFAS REGULATORY COALITION

By: /s/ Fredric P. Andes
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CERTIFICATE OF SERVICE

I, Fredric Andes, hereby certify that I have filed the attached Notice of Filing and Exhibits for Oral Statement by Ned Beecher for PFAS Regulatory Coalition upon the below service list by electronic mail on December 5, 2022.

Dated: December 5, 2022

/s/ Fredric Andes

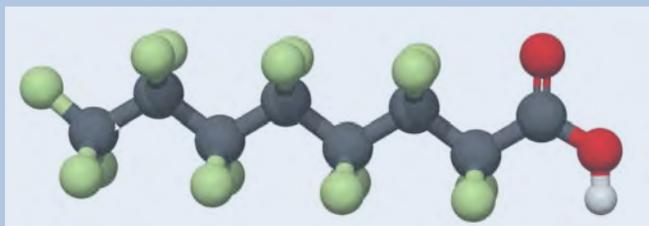
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Exhibits for Oral Statement to the Illinois Pollution Control Board re Proposed PFAS Groundwater Standards



December 7/8, 2022

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for the PFAS Coalition
Some information & data thanks to



Why it is best to remove the PFAS standards from the proposed Part 620 regulations...

1. *Setting drinking water MCLs first is the norm, & addresses feasibility, costs, & impacts.*
2. *It is important to understand impacts on environmental programs (e.g. wastewater treatment and waste & biosolids management).*
 - *A few other states have rushed forward & disrupted these programs. Most states have not, and Michigan is an example of a positive, proactive approach.*
 - *Groundwater standards will likely be endpoints in modeling PFAS leaching and determining acceptable levels in biosolids and soils; understanding this is important.*
 - *And what about liability? Are wastewater facilities going to be held liable?*
3. *Setting standards without understanding widespread background levels causes problems; IEPA should evaluate background data*
 - *Even some home septic systems are likely to cause exceedance of the proposed Part 620 groundwater limits for PFOS, etc.*
 - *For example, schools in rural NH & VT have high groundwater levels (100s ppt) due to cleaning products going into septic systems, day by day, year after year.*

Recommendations:

- *It will be helpful to have validated analytical methods before setting standards.*
- *Conduct some comparative risk analysis, to understand PFAS in broad context.*

Measuring & talking about PFAS

In waters: in parts per trillion

1 ppt = 1 second in ~32,000 years

In soils/solids: in parts per billion

1 ppb = 1 second in 32 years

Limited analytical methods:

- EPA Method 537/537.1 & 533 – for drinking water only
- EPA Method 8327, for non-drinking water, direct injection
- Draft EPA Method 1633 (with DoD) for solids & non-drinking water, using isotope dilution, final due in 2023?
- Others in development stages

<https://www.epa.gov/water-research/pfas-analytical-methods-development-and-sampling-research>

Setting limits at background levels?

Contaminant	2021 IEPA proposed standard in mg/L or ppm (ng/L or ppt)	2019 IEPA standard in mg/L or ppm (ng/L or ppt). The 2021 IEPA health advisory levels are the same, except for PFBS (560,000 ppt) and PFOA (2 ppt)	2022 Michigan Standards in mg/L or ppm (ng/L or ppt)	2022 U. S. EPA RSL for DW/GW (and 2019 OLEM Interim Recommendations for PFOA & PFOS only) ppt	2019 Massachusetts, 2019 Vermont (for 5, not 6 PFAS), and 2021 Maine: Groundwater Class 1 standards are the same as drinking water standards: 20 ppt for sum of 6 PFAS, including PFDA & PFHpA (not shown in this table) ppt	2019 New Hampshire: Groundwater standards are the same as drinking water standards ppt	2021 Texas ppt	2018 Germany (and 2021 Denmark health-based groundwater standards: 100 ppt for all of the PFAS below, and others)	2020 Netherlands
Perfluorobutane Sulfonic Acid (PFBS)	0.0012 (1,200)	0.14 (140,000)	.00042 (420)	6,000	No standard	No standard	34,000	6,000 (100)	No standard
Perfluorohexane Sulfonic Acid (PFHxS)	0.000077 (77)	0.00014 (140)	.000051 (51)	390	20	18	93	100 (100)	No standard
Perfluorononanoic Acid (PFNA)	0.000012 (12)	0.000021 (21)	.000006 (6)	59	20	11	290	60 (100)	No standard
Perfluorooctanoic Acid (PFOA)	0.000002 (2)	0.000021 (21)	.000008 (8)	60 (40)	20	12	290	100 (100)	170,000
Perfluorooctane Sulfonic Acid (PFOS)	0.0000077 (7.7)	0.000014 (14)	.000016 (16)	40 (40)	20	15	560	100 (100)	56,000

Sources of table: <https://www.dickinson-wright.com/news-alerts/illinois-epa-proposes-groundwater-standards>
<https://www.jdsupra.com/legalnews/illinois-epa-proposes-groundwater-3321030/>
 ITRC, 2022: PFAS Water and Soil Values Table, updated June 2022: <https://pfas-1.itrcweb.org/fact-sheets/>

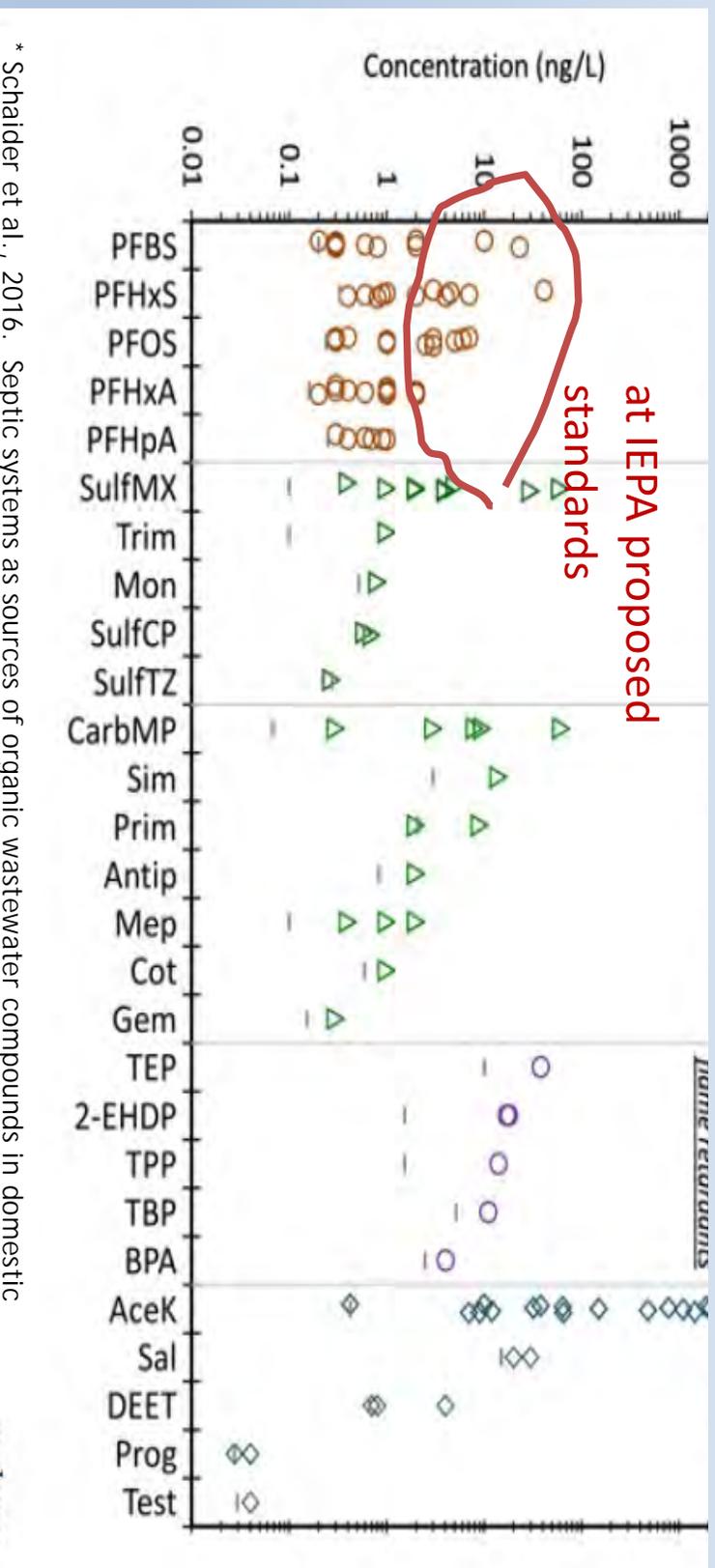
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Perfluorooctane Sulfonic Acid (PFOS)	0.0000077 (7.7)	U. S. rain mean: 5.4 ppt (Pike et al., 2021)			40 (40)	20	15	560	100 (100)	56,000

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Setting limits at background levels?

Massachusetts set such low PFAS groundwater limits, many activities may be noncompliant, including septic systems.



* Schaidler et al., 2016. Septic systems as sources of organic wastewater compounds in domestic drinking water wells in a shallow sand and gravel aquifer. Sci. Total Environ.

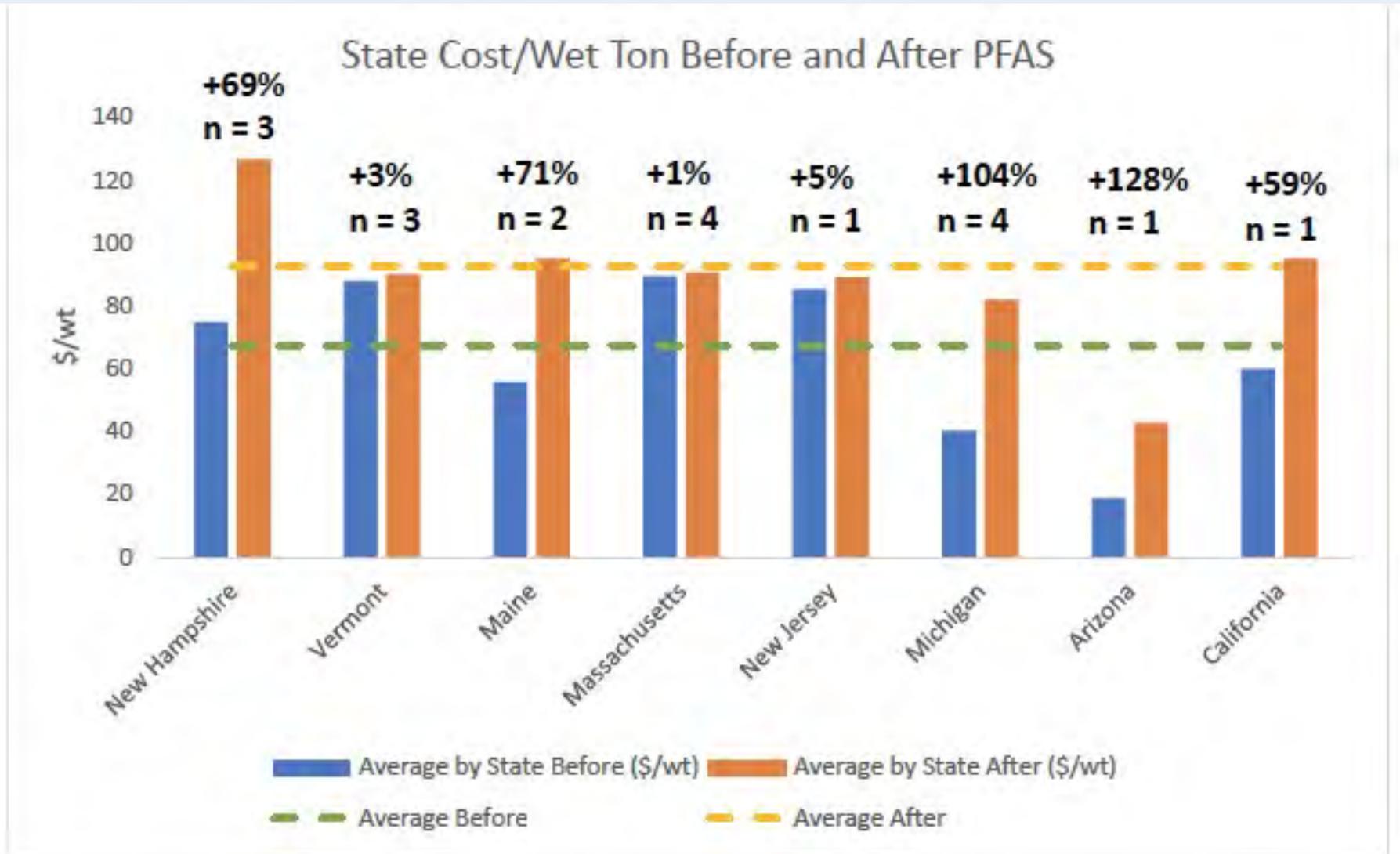


Setting limits below background levels?

Data from USGS groundwater testing in eastern states.

	PFOS (7.7 ng/L Part 620)	PFOA (2 ng/L Part 620)
Sample count	254	254
Number of detections	97	113
Detection frequency (%)	38.2	44.5
Minimum (ng/L)	<RL	<RL
Median (ng/L)	6.7	4.6
Maximum (ng/L)	98	1500

Cost impacts on beneficial programs

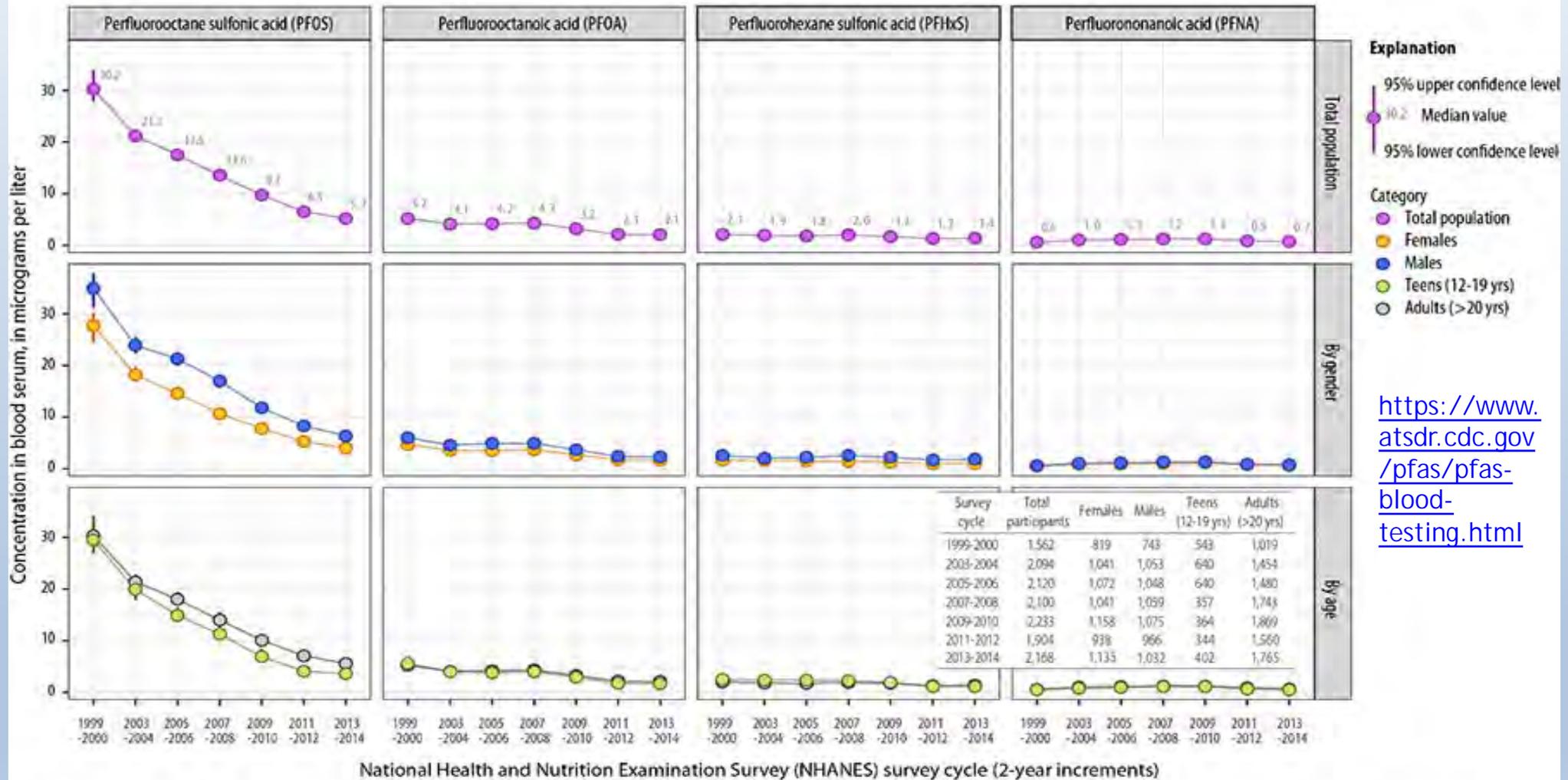


from CDM Smith et al., Oct. 2020

Figure 2-2. Comparison of average biosolids handling cost before and after PFAS concerns by state.

Positive results of phasing out uses of PFAS...

Median concentration of selected per- and polyfluoroalkyl substances (PFAS) in blood serum (1999-2014) in the United States



<https://www.atsdr.cdc.gov/pfas/pfas-blood-testing.html>

Data source: Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (January 2017). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. <https://www.cdc.gov/exposurereport/>.

Note: In January 2006, the eight major PFAS manufacturing companies in the U.S. voluntarily committed to a 95% reduction of emissions and product content for PFOA and selected related PFAS species by 2010 and a complete elimination of these chemicals from emissions and products by 2015 (USEPA, 2010/2015 PFOA Stewardship Program). The major US producer of PFOS phased out production of PFOS precursors by 2002 (Prevedouros et al. ES&T 2006, 40:32-44).

Thank you.

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Biosolids
compost for my
raspberries...
I still use it,
knowing it has
PFAS in it. I
believe the
benefits
outweigh risks :)

More Resources:

PFAS & Biosolids: <https://www.nebiosolids.org/pfas-biosolids>

Summary article in *Country Folks*:

<https://countryfolks.com/pfas-and-agriculture-what-it-means/>

“We can never get to zero...”

<https://www.wastedive.com/news/pfas-chemicals-organics-recycling-compost-biosolids/587044/>

Slides adapted from NEBRA presentations. Thanks to

