



NEBRA PFAS Work & Resources

Ned Beecher, NEBRA

October 15, 2018

NEWEA Microconstituents & Residuals PFAS Conference
Univ. of Massachusetts - Lowell

NEBRA Core Documents

- **PFAS & Recycling: Putting Them In Perspective** (v.2.2, Jan. 2, 2018)
a 2-page fact sheet for use in defending against concerns about PFAS in residuals
- **NEBRA PFAS in Biosolids & Residuals - Fact Sheet** (v. 3.3, Jan. 9, 2018)
- **NEW! NEBRA Literature Review: PFAS & Wastewater Residuals (v. 1.0), with abstracts & notes** - June 2018
- **NEW! NEBRA PFAS Bibliography** (spreadsheet; NEBRA has copies of some for individual, personal use) - May 25, 2018
- **FAQ: PFAS & Wastewater/Residuals/Biosolids**, Jan. 18, 2017. Working draft. Should you test?
- **Guidance: Sampling & Analysis of PFAS in Biosolids and Associated Media - v. 2**, Jan. 5, 2018
- **Concentrations of PFAS in NE Biosolids, Residuals, Wastewater, & Associated Media - a spreadsheet dataset coming soon...**
- **PFAS Research Proposal Summary**, Dec. 2017. Not funded. Tabled.

NEBRA Activities

➔ And shameless plug for PFFund... Deadline: this Friday 9 am.

Reality check: Wastewater & biosolids convey PFAS, but...

- **PFAS are ubiquitous.** Even wastewater & biosolids with no industrial inputs can have 1's to 10's parts per billion (ppb*). Wastewater & biosolids are not sources, but transfer routes for PFAS. Source control & phase-outs are the best option for reductions. But we will not get to zero PFAS in wastewater and biosolids and the environment anytime soon.
- **Presence does not necessarily mean risk.** For wastewater & biosolids, there is no dermal, inhalation, or ingestion risk. The indirect pathway of leaching to waters is the only possible human health concern, and that will depend on the endpoint screening levels set for ground- and surface waters.
- **NH DES data for biosolids sites** show groundwater impacts directly under several worst-case-scenario legacy biosolids sites, but no significant impacts on neighboring drinking water wells (except 1 surface well with marginally elevated PFOA + PFOS, the sources of which are uncertain). Biosolids & soils bind longer-chain PFAS.
- **PFOA & PFOS are at lower levels in modern wastewater & biosolids than in the past,** due to phase-outs. Wastewater & biosolids returning to the environment today are conveying significantly less PFOA & PFOS (~1/10th).
- **Data are inadequate for robust modeling of leaching potential from biosolids applied to soils.** Most states recognize this. There are no approved EPA analytical methods. Efforts are underway for regional &/or national studies to address data gaps.
- **Environmental impacts:** Wastewater & biosolids have contained PFAS for 50+ years – including PFOA & PFOS at higher levels than today. Bioassays of uses of effluent & biosolids have not found significant negative impacts, only benefits.
- **How much will society – your municipality & state – spend chasing trace PFAS in waste streams & the environment?** And what is the public health benefit compared to use of those resources elsewhere? Prioritize – as DES has done – the obvious, highly-impacted industrial & military sites. Careful thinking is needed as screening levels & standards are set.
- **Best practical option:** Phase out any PFAS that are particularly toxic, persistent, &/or bioaccumulative.



*1 ppb = 1 sec. in 31.7 years / 1 ppt = 1 sec. in 31,700 years



Sign up for free *NEBRAMail*:
left side of nebiosolids.org

Still using
biosolids
compost on
my home
garden...

& I know it
has PFOA +
PFOS at ~25
ng/g
(ppb)... I am
living with
that.



Ned Beecher

ned.beecher@nebiosolids.org

603-323-7654