

Madison Metropolitan Sewerage District Sampling and Analysis of Influent, Effluent, and Biosolids for PFAS Compounds

2026 CSWEA - Wisconsin Government Affairs Seminar
February 19, 2026

Madison Metropolitan
Sewerage District

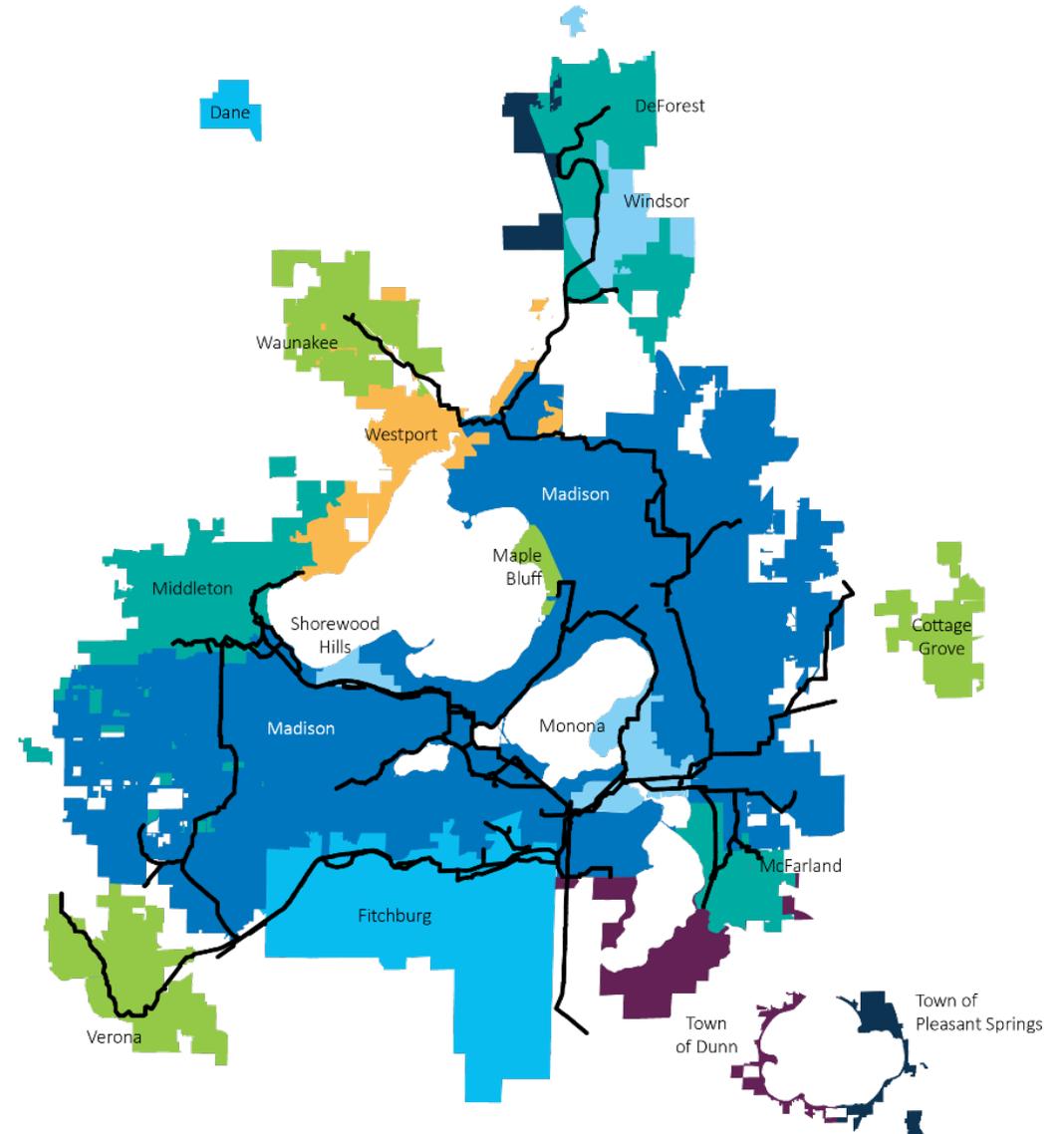


Presented by Martye Griffin

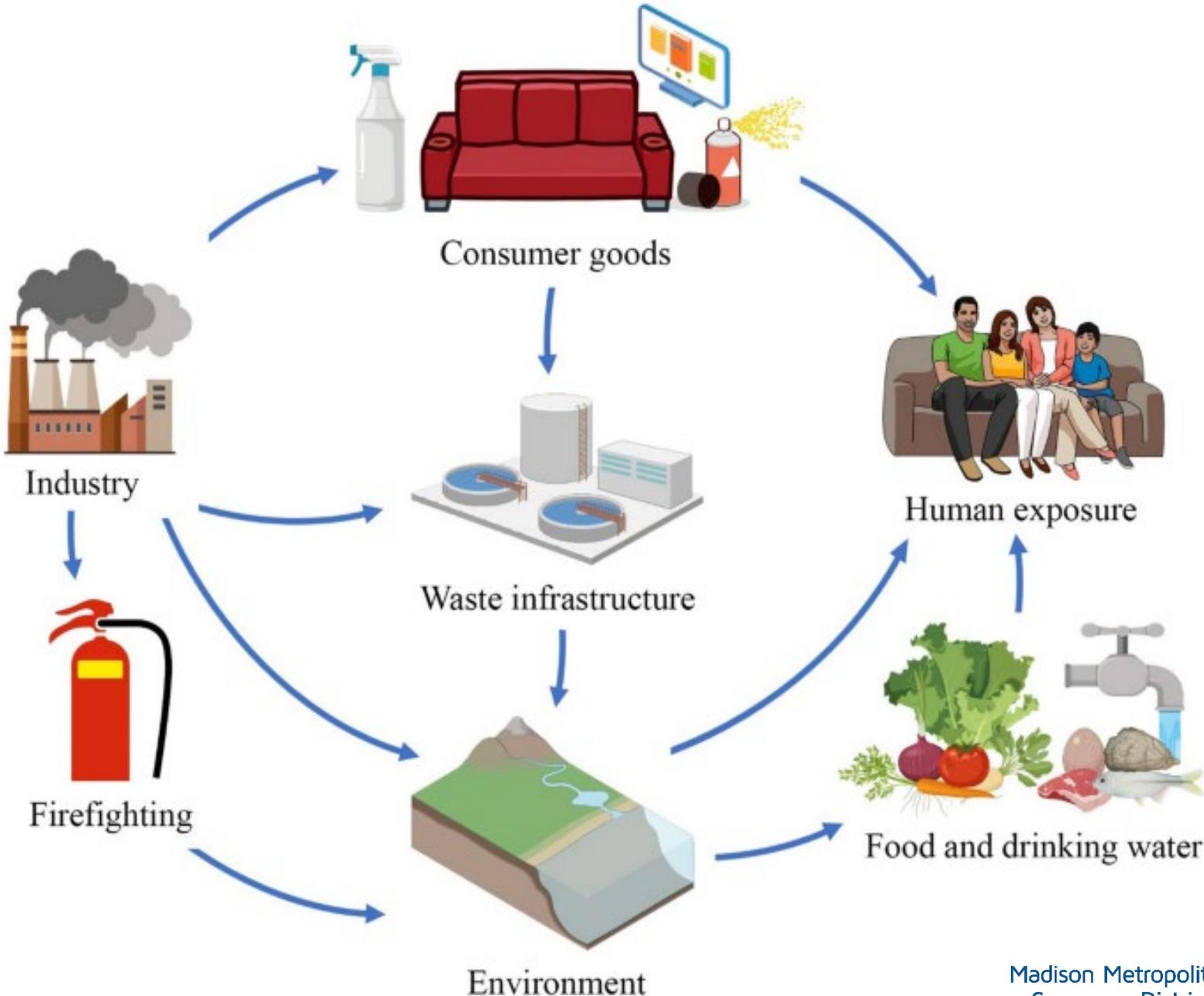


About the District

- Established in 1930
- Regional wastewater utility for 24 customer communities in Dane County
- Serves 440,000 individuals and businesses across 190 square miles
- Operate 151 miles of pipe
- Collects 38 million gallons daily (on average)



We reflect the communities we serve



District Action Plan

- ✓ Fate & Transport
- ✓ Waste Acceptance
- ✓ Website
MadsewerPFASinitiative.org
- ✓ Sampling
- ✓ Pollution Prevention



Current Testing Timeline

MadsewerPFASinitiative.org



2024 – Monitoring

- Influent, effluent, biosolids temporal sampling
- Aligned with WDNR monitoring protocols
- Assessed sampling methodology for effluent





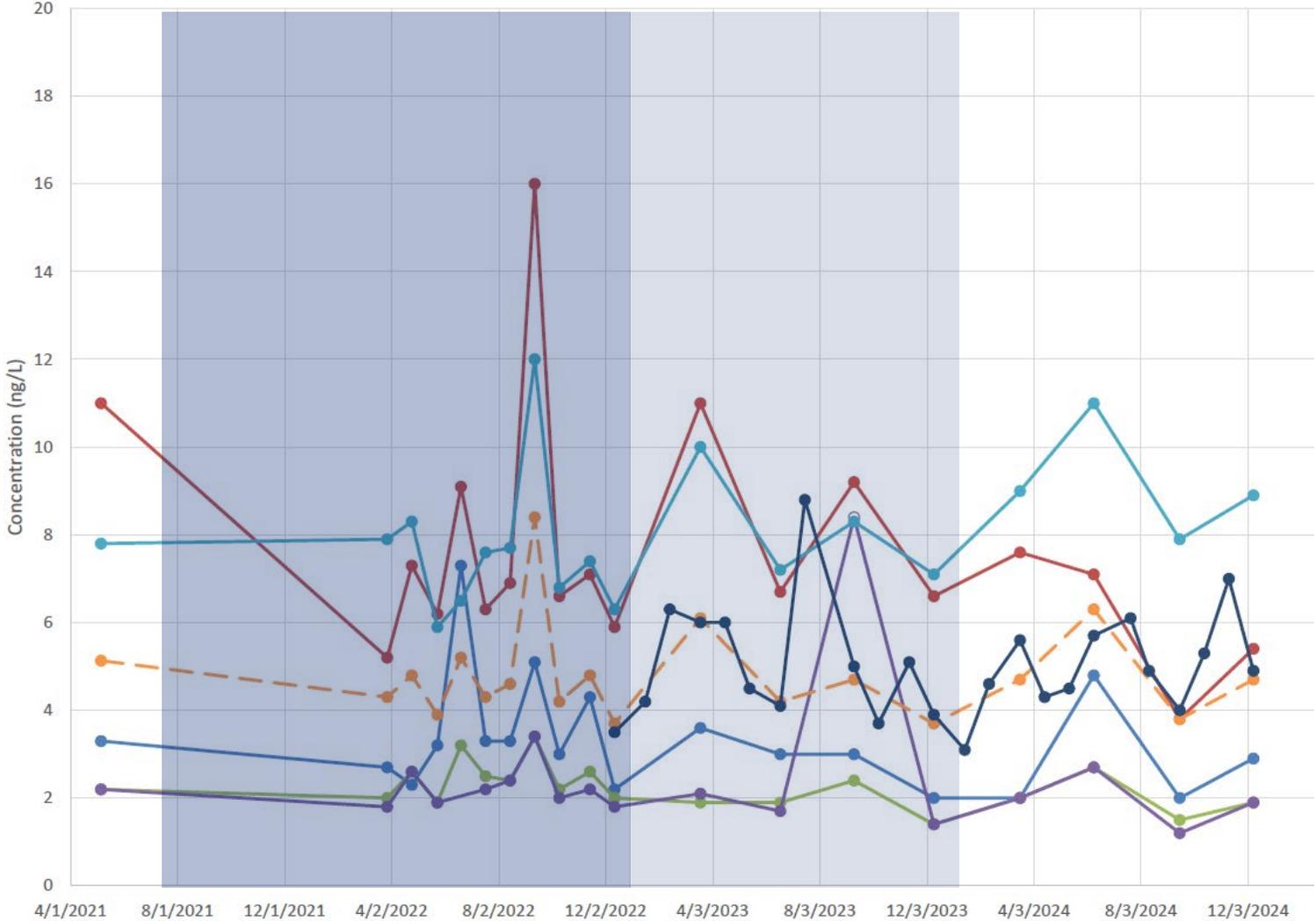
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Influent

2024 Results - Influent

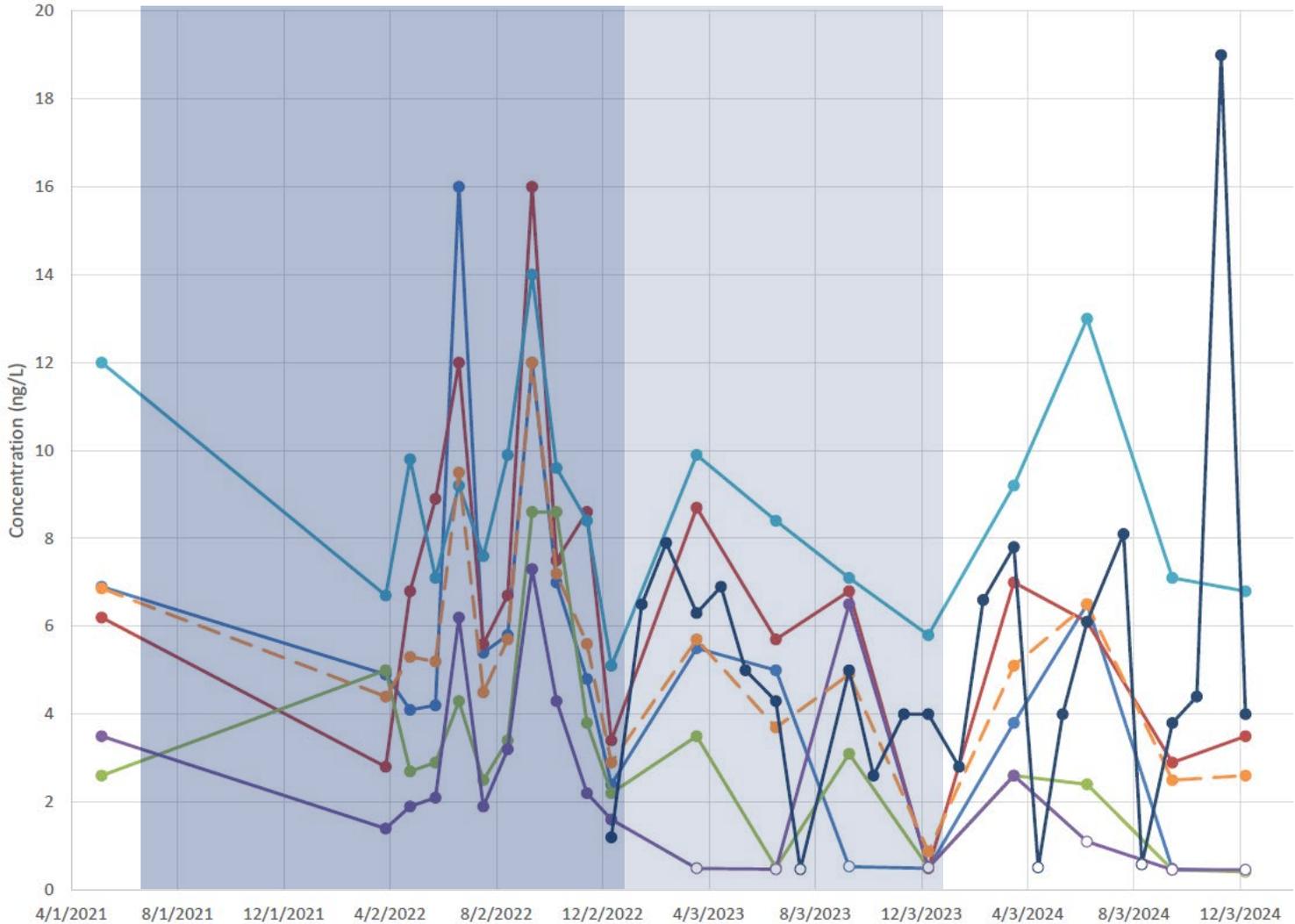
PFOA

- INF-02
- INF-07
- INF-08
- INF-11
- INF-18
- INF-CALC
- INF-COMP



2024 Results - Influent

PFOS



2024 Results – Influent Summary

Individual force mains:

- No single continuous source
- No indicators at high concentrations

All force mains:

- PFOA and PFOS relatively consistent
- November PFOS higher than typical
- PFOA generally lower than PFOS



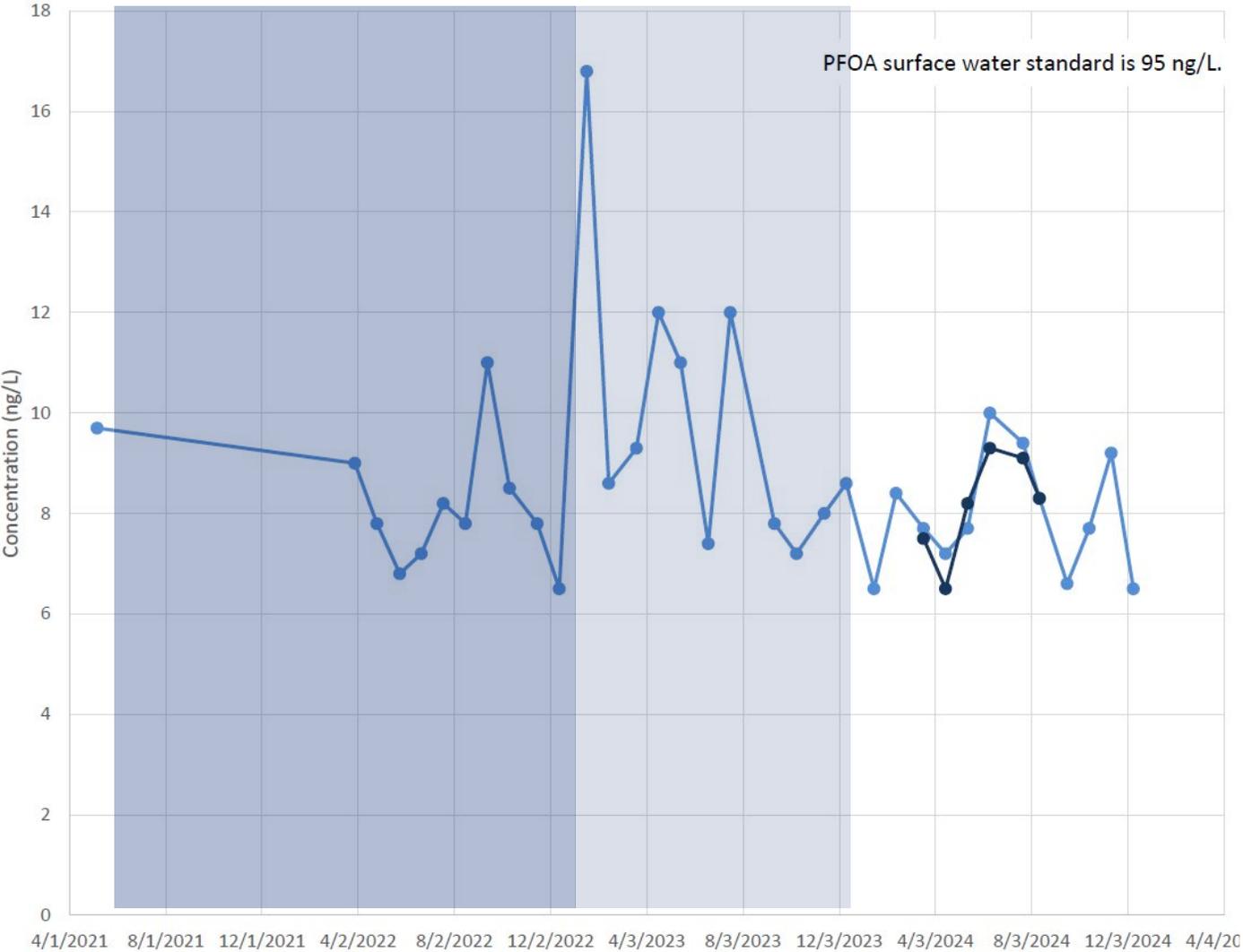


Effluent

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2024 Results - Effluent

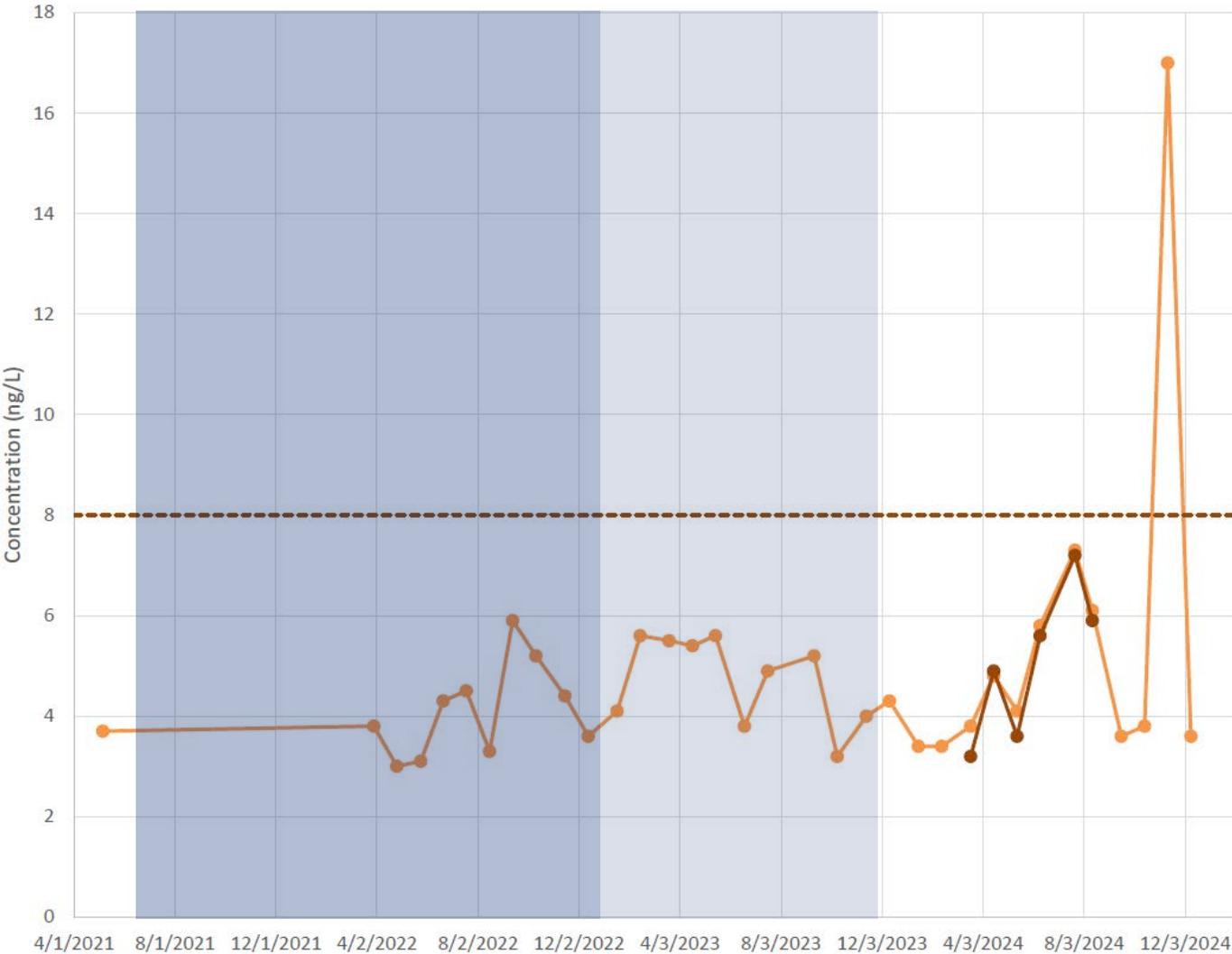


PFOA

- PFOA (Composite)
- PFOA (Grab)

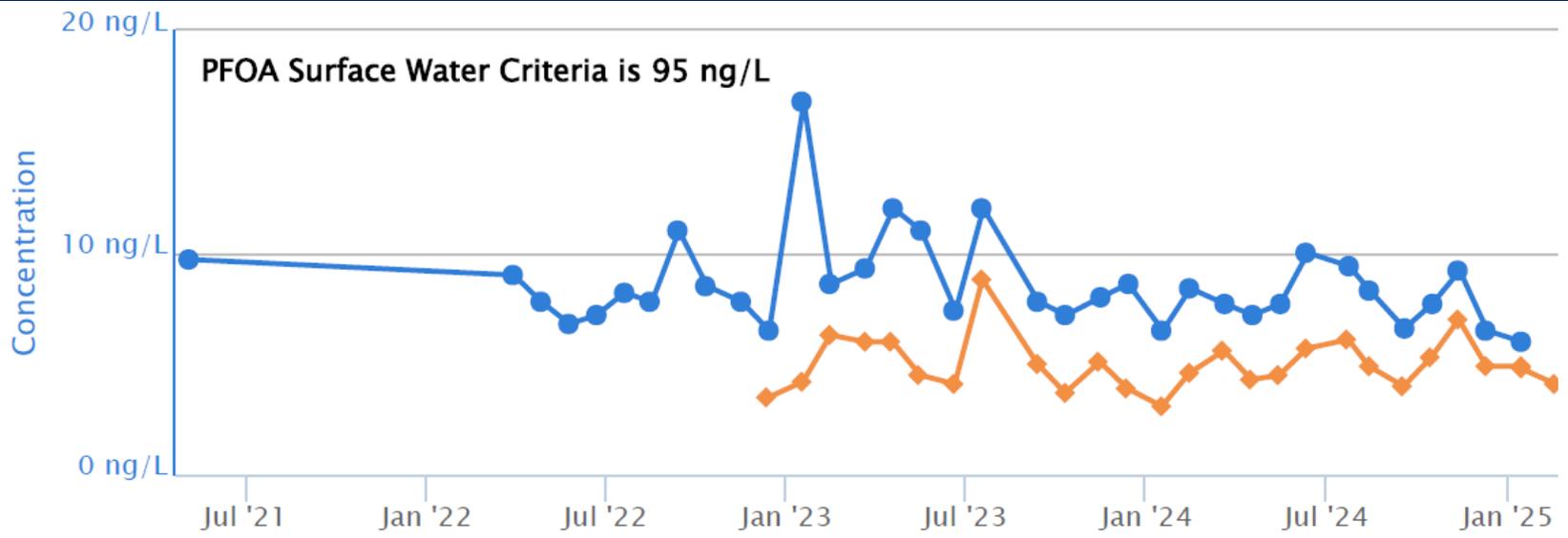
2024 Results - Effluent

PFOS



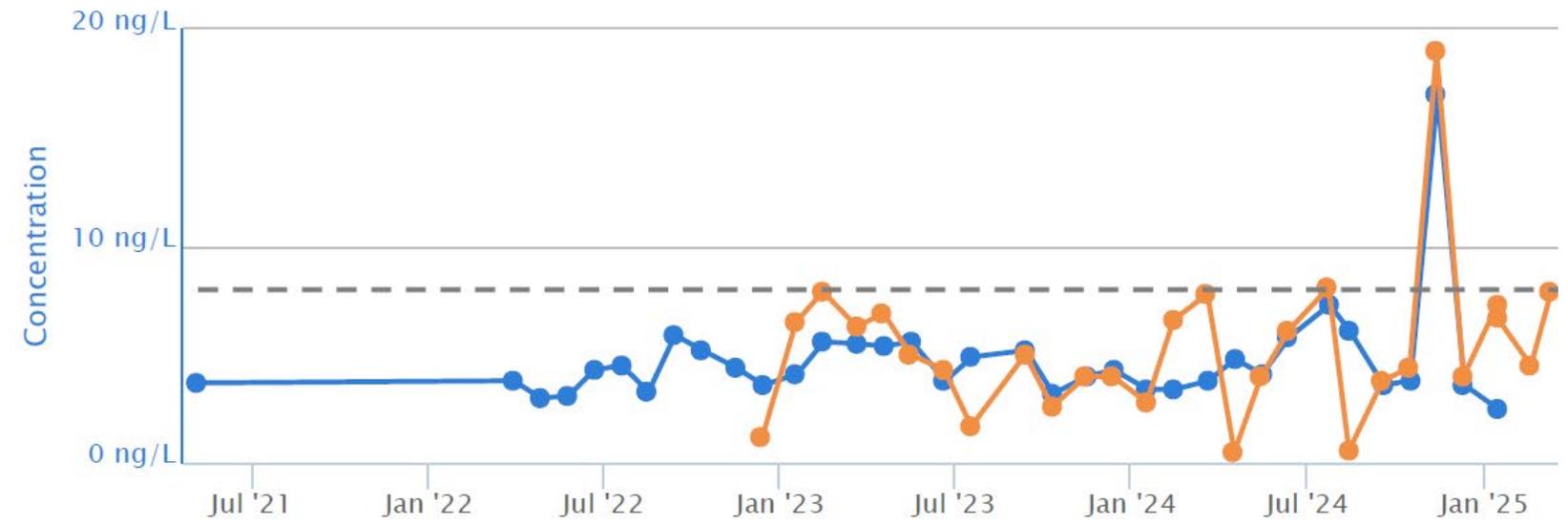
- PFOS (Composite)
- PFOS (Grab)
- PFOS Surface Water Standard

2024 Results – Influent & Effluent



PFOA

- Effluent
- Composite Influent



PFOS

2024 Results – Effluent Summary

- Effluent levels differ from month to month
- Composite and Grab samples are representative
- Effluent PFOS lower than PFOA
- Effluent levels below state water quality standards



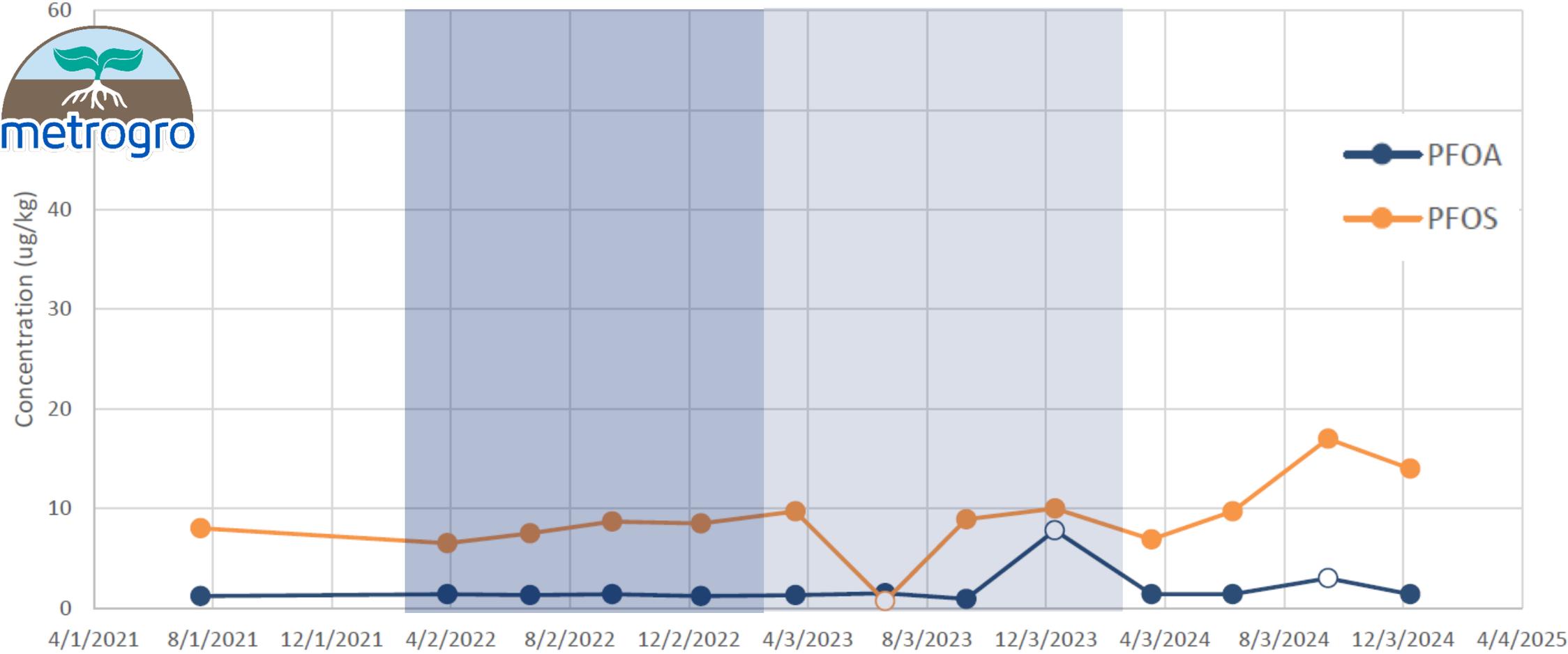


Biosolids



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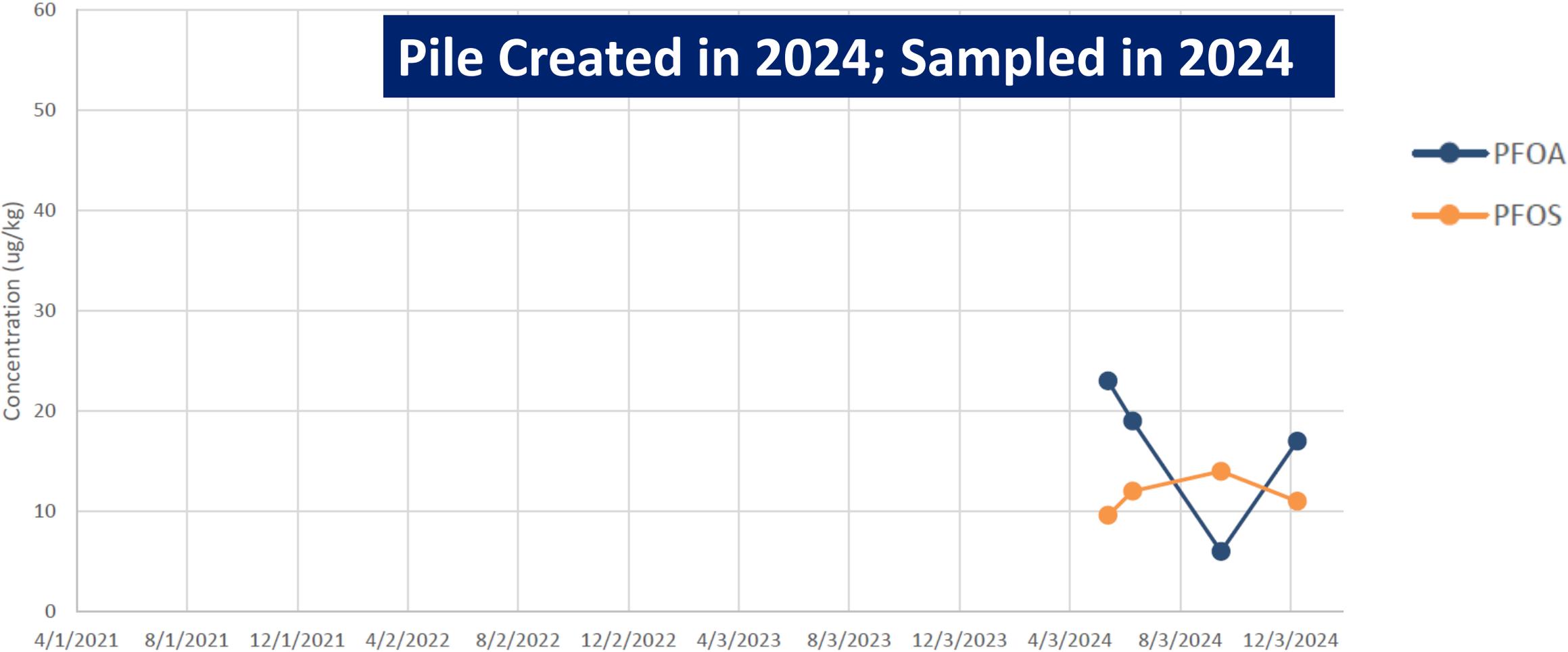
2024 Results – Metrogro Class B Biosolids



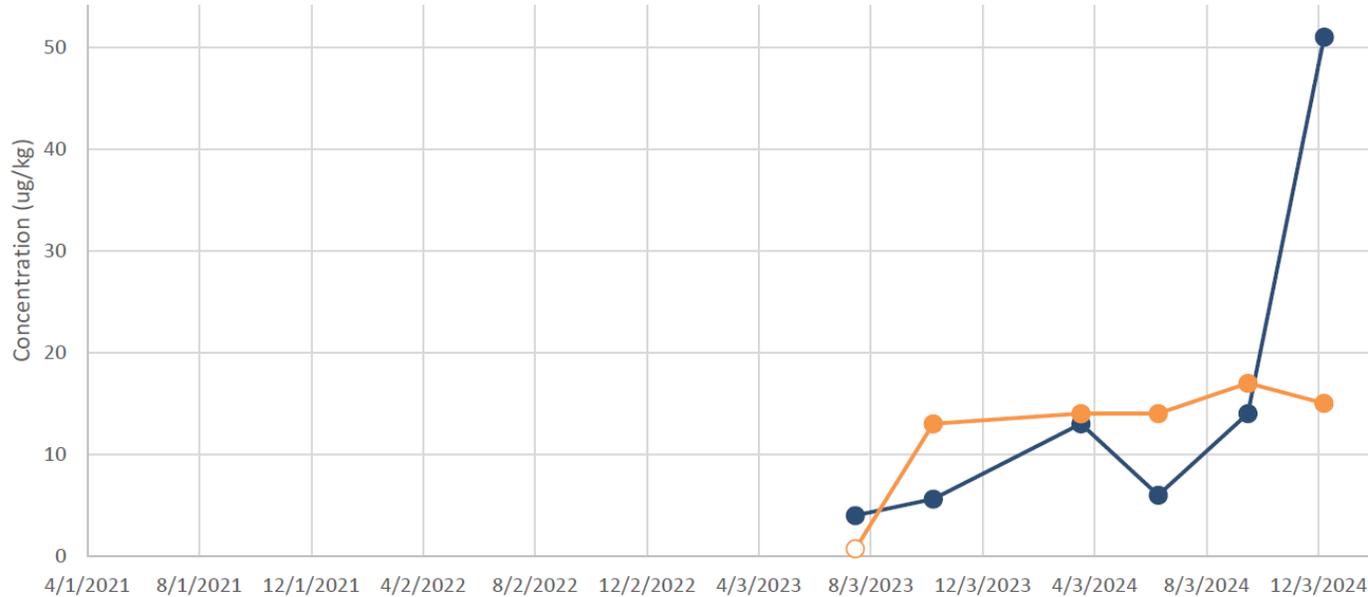
2024 Results –Metrogro Class B Biosolids Summary

|  | March | June | September | December | Combined Median PFOA+PFOS |
|---|-------|------|-------------------|----------|---------------------------|
| PFOA (ug/Kg) | 1.4 | 1.4 | <3.0 (non-detect) | 1.4 | |
| PFOS (ug/Kg) | 6.9 | 9.7 | 17 | 14 | |
| Sum PFOA+PFOS | 8.3 | 11.1 | 17 | 15.4 | 13.3 |

2024 Results – Class A Cake Biosolids

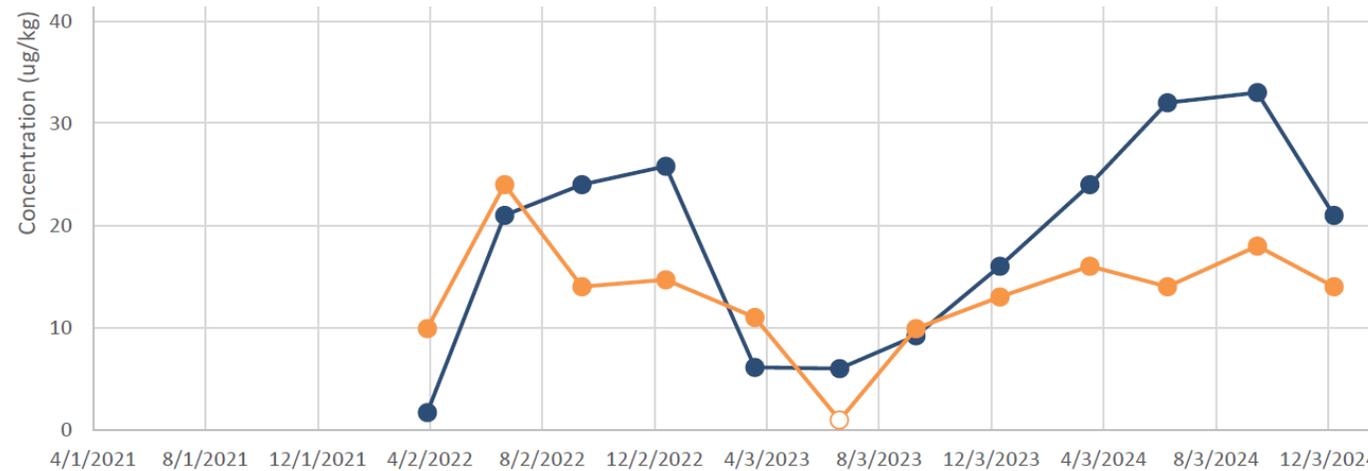


2024 Results – Class A Cake Biosolids



**Pile Created in 2023;
Sampled 2023-2024**

● PFOA
● PFOS



**Pile Created in 2022;
Sampled 2022- 2024**

2024 Results – Class A Cake Biosolids Summary

|  metrogro | May | June | September | December | Median PFOA+PFOS |
|--|------|------|-----------|----------|------------------|
| PFOA (ug/Kg) | 23 | 19 | 6 | 17 | |
| PFOS (ug/Kg) | 9.6 | 12 | 14 | 11 | |
| PFOA+PFOS | 32.6 | 31 | 20 | 28 | 29.5 |

2022-2024 Results – Class A Cake Biosolids Summary

| Year Created | Range PFOS+PFOA Sampled in 2022 (ug/kg) | Median PFOS+PFOA Sampled in 2022 (ug/kg) | Range PFOS+PFOA Sampled in 2023 (ug/kg) | Median PFOS+PFOA Sampled in 2023 (ug/kg) | Range PFOS+PFOA Sampled in 2024 (ug/kg) | Median PFOS+PFOA Sampled in 2024 (ug/kg) |
|--------------|---|--|---|--|---|--|
| 2022 | 11.4-45 | 38 | 6-29 | 18.1 | 35-51 | 43 |
| 2023 | | | 2.7-23 | 15.1 | 20-66 | 29 |
| 2024 | | | | | 20-32.6 | 29.5 |

Summary

- PFAS levels and types continue to be as expected
- PFOA and PFOS levels in effluent below regulatory standards
- Effluent sampling method results similar
- PFOA and PFOS combined values in Metrogro below threshold for reducing land application

Next Steps

- Sampling of influent, effluent & biosolids
- Septage sampling planning
- Waste impact to biosolids evaluation tool
- Lab capacity assessment

Thank you

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PFAS Comparisons for Different Sources

Graphic: bloomsoil.com

| | |
|------------------------------------|-----------|
| Dental Floss ⁸ | 2,489,000 |
| Ketchup ⁷ | 58,000 |
| Organic Pasta Sauce ⁷ | 21,000 |
| Cosmetic Foundation ⁶ | 10,500 |
| Smartwatch Wristbands ⁵ | 800 |
| Daycare Dust ⁴ | 523 |
| Pork Liver ³ | 283 |
| Bloom ² | 130 |
| US Blood Serum ¹ | 7 |

PFAS levels (parts per billion)

Charts compare relative PFAS sources. Figures are illustrative and for public education only.

