

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

DNR PFAS UPDATE

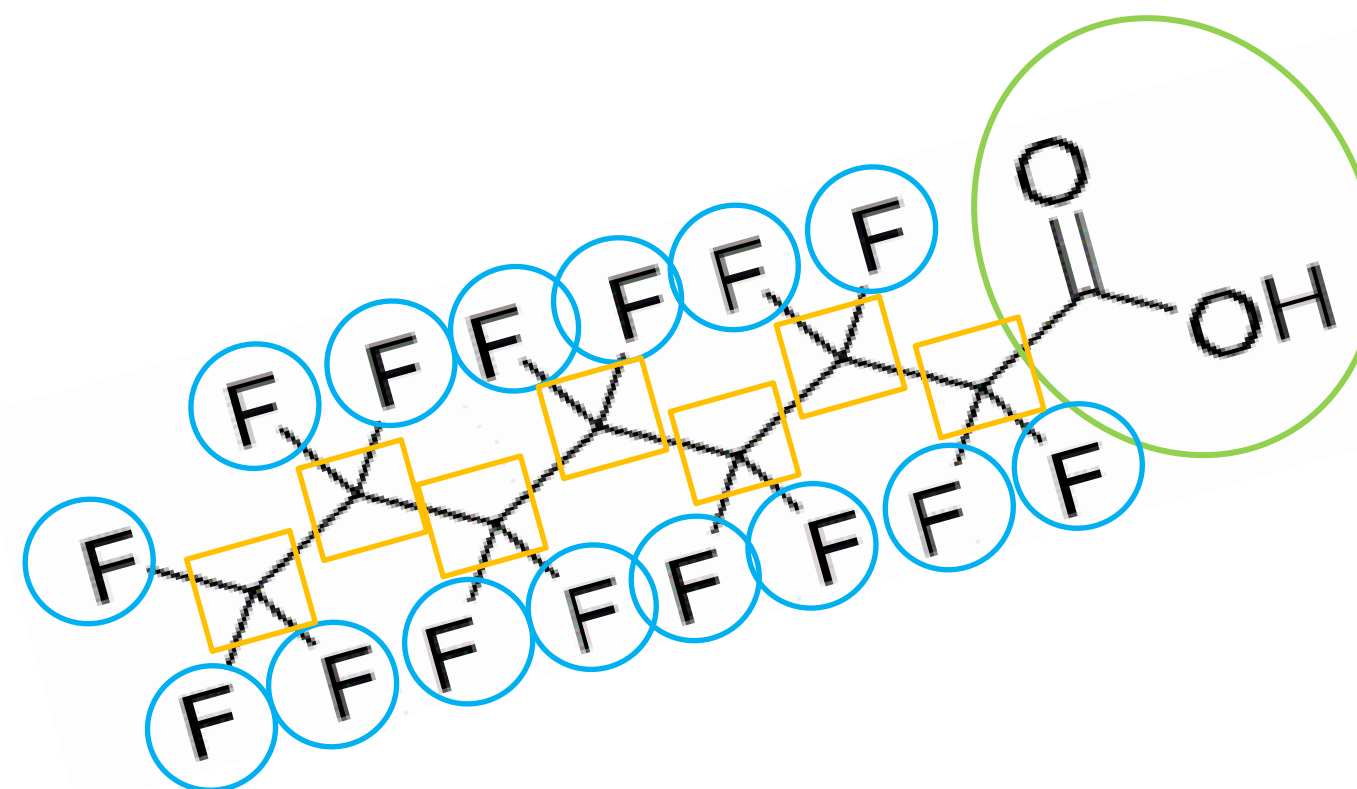
Spring Biosolids Symposium
March 18, 2025

Nate Willis, PE
Wastewater Engineer



AGENDA

- PFOA/PFOS WQS Implementation Update
 - PFOA/PFOS Effluent Data
 - PFOA/PFOS Minimization Plan Guidance
- Analytical Method Update
- Land Application PFAS Update
 - USEPA Draft Biosolids Risk Assessment
 - PFAS Sludge/Biosolids Data



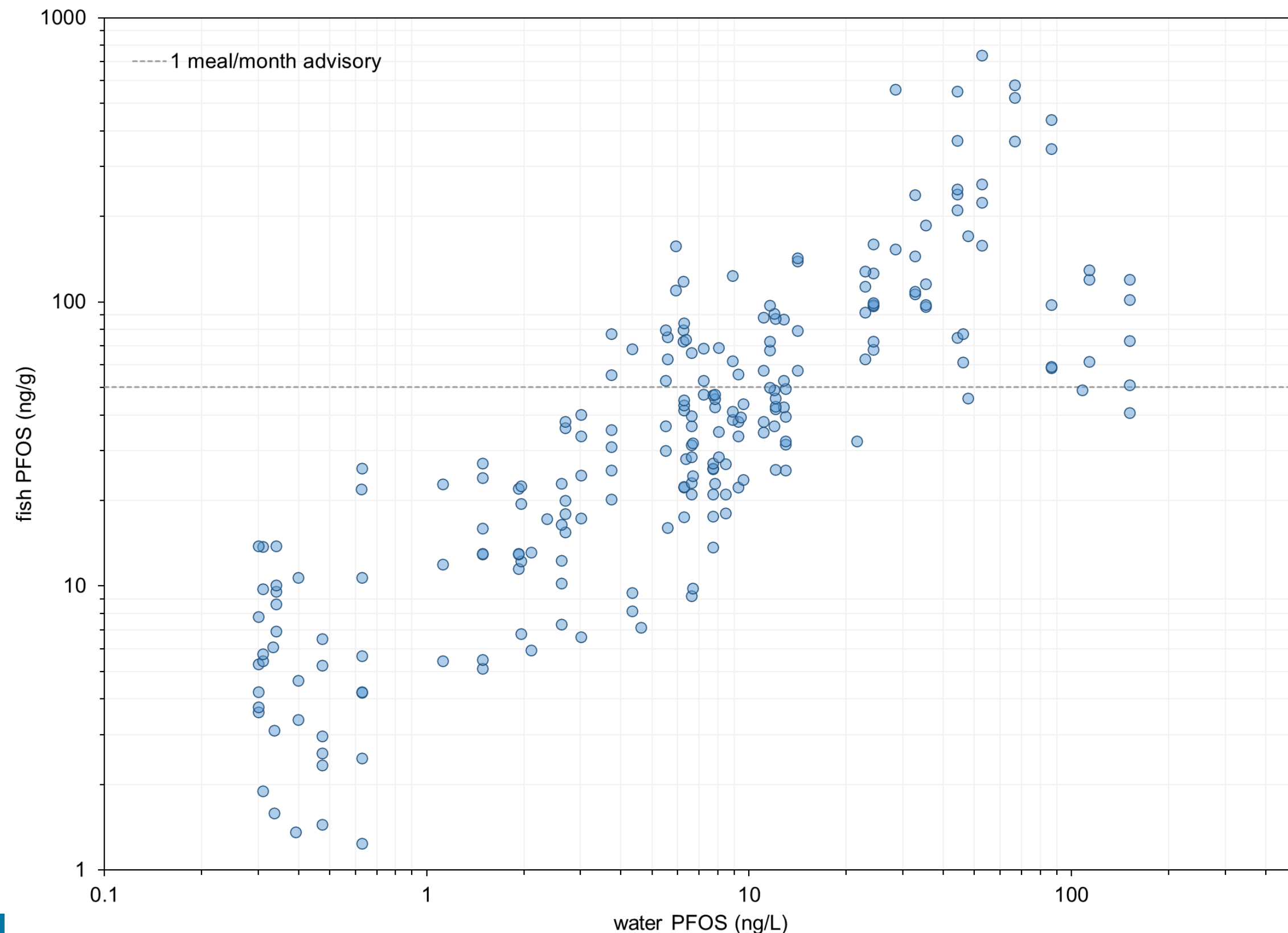
PFOA/PFOS Surface Water Rule Implementation



PFOS Water Quality Standard

PFOS = 8 ng/L

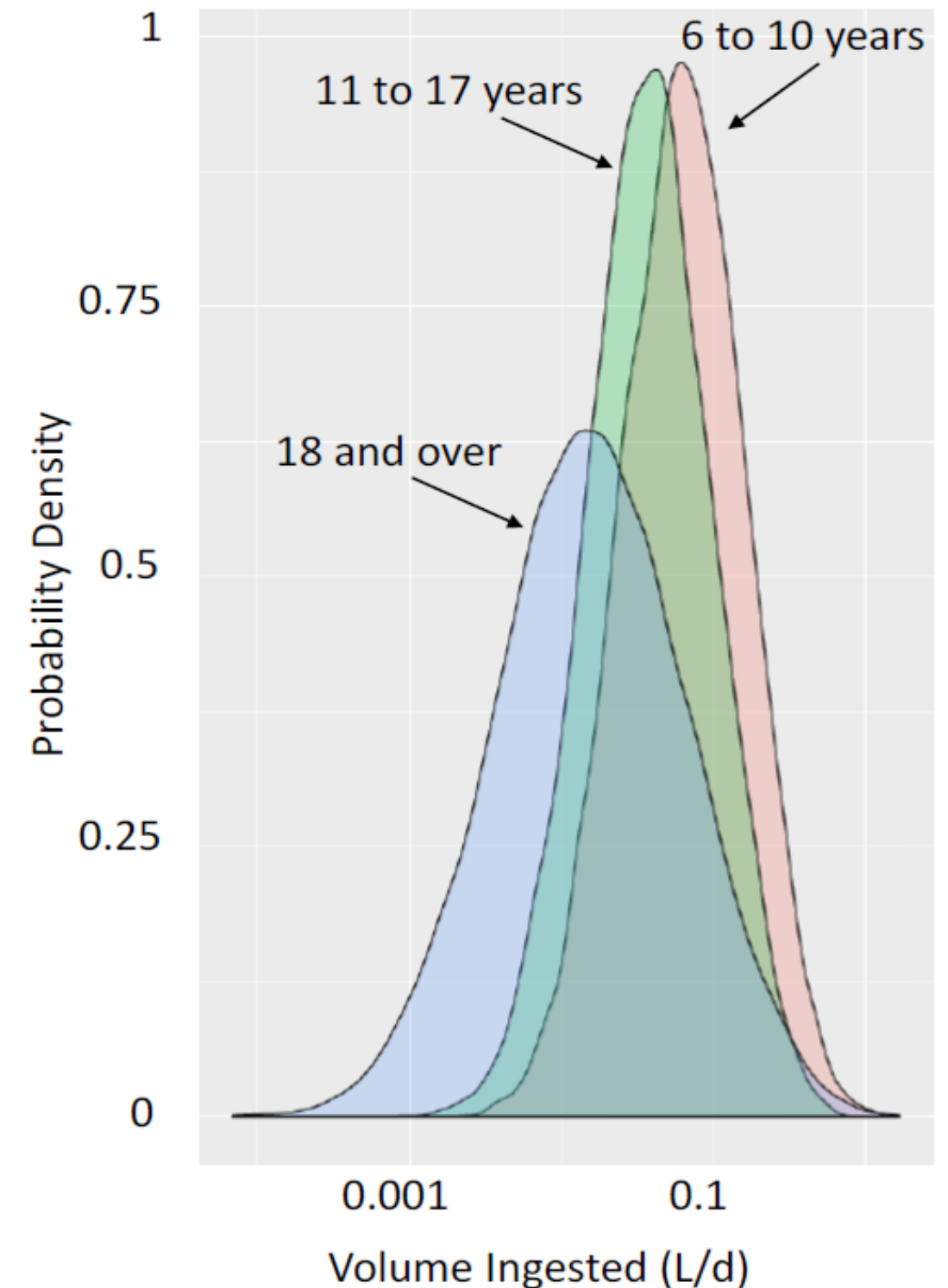
Prevents issuance of 1
meal/month fish
consumption advisory



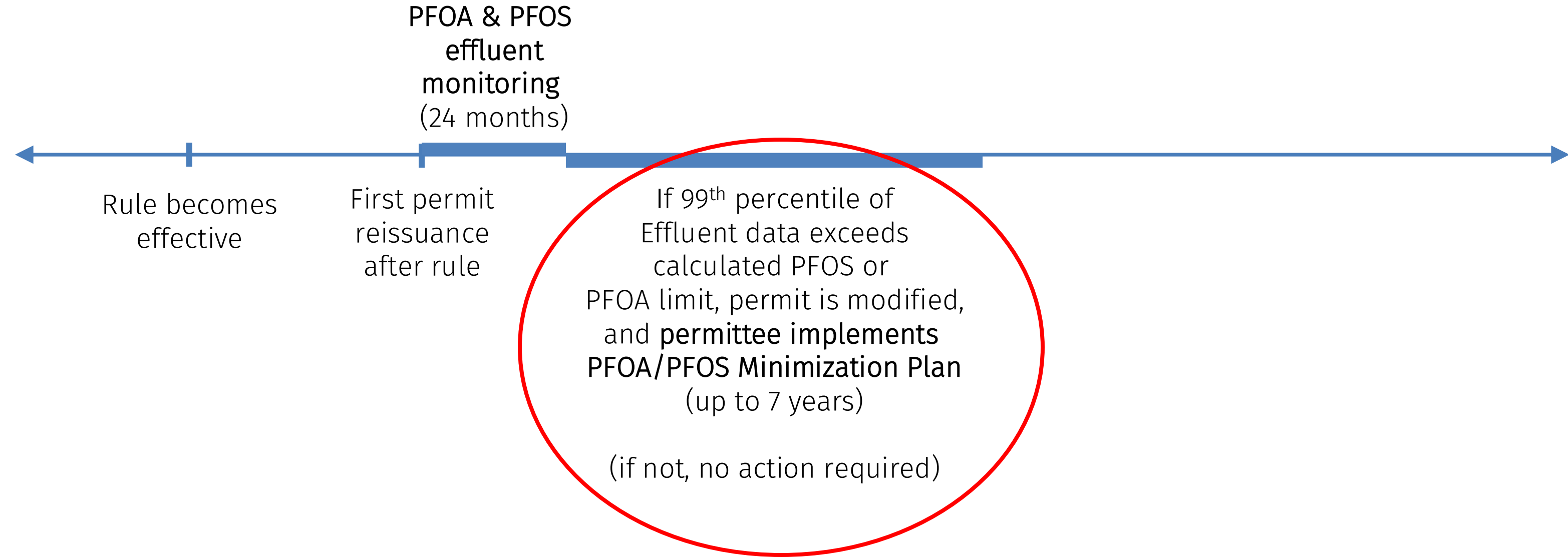
PFOA Water Quality Standard

PFOA = 20 ng/L in drinking water sources
Protects against daily ingestion

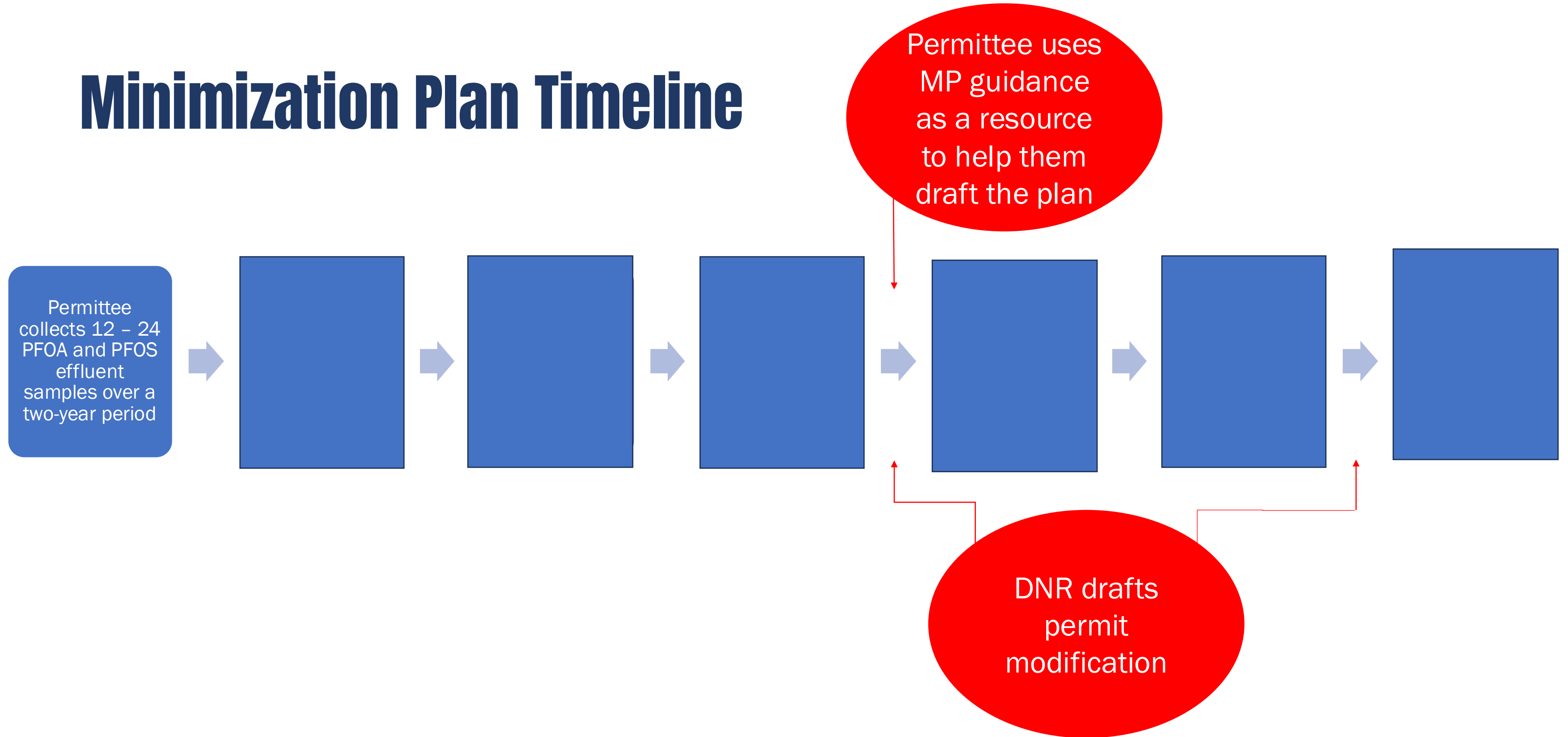
95 ng/L in all other waters
Protects against incidental
ingestion by children during
recreation



Implementation Timeline



Minimization Plan Timeline

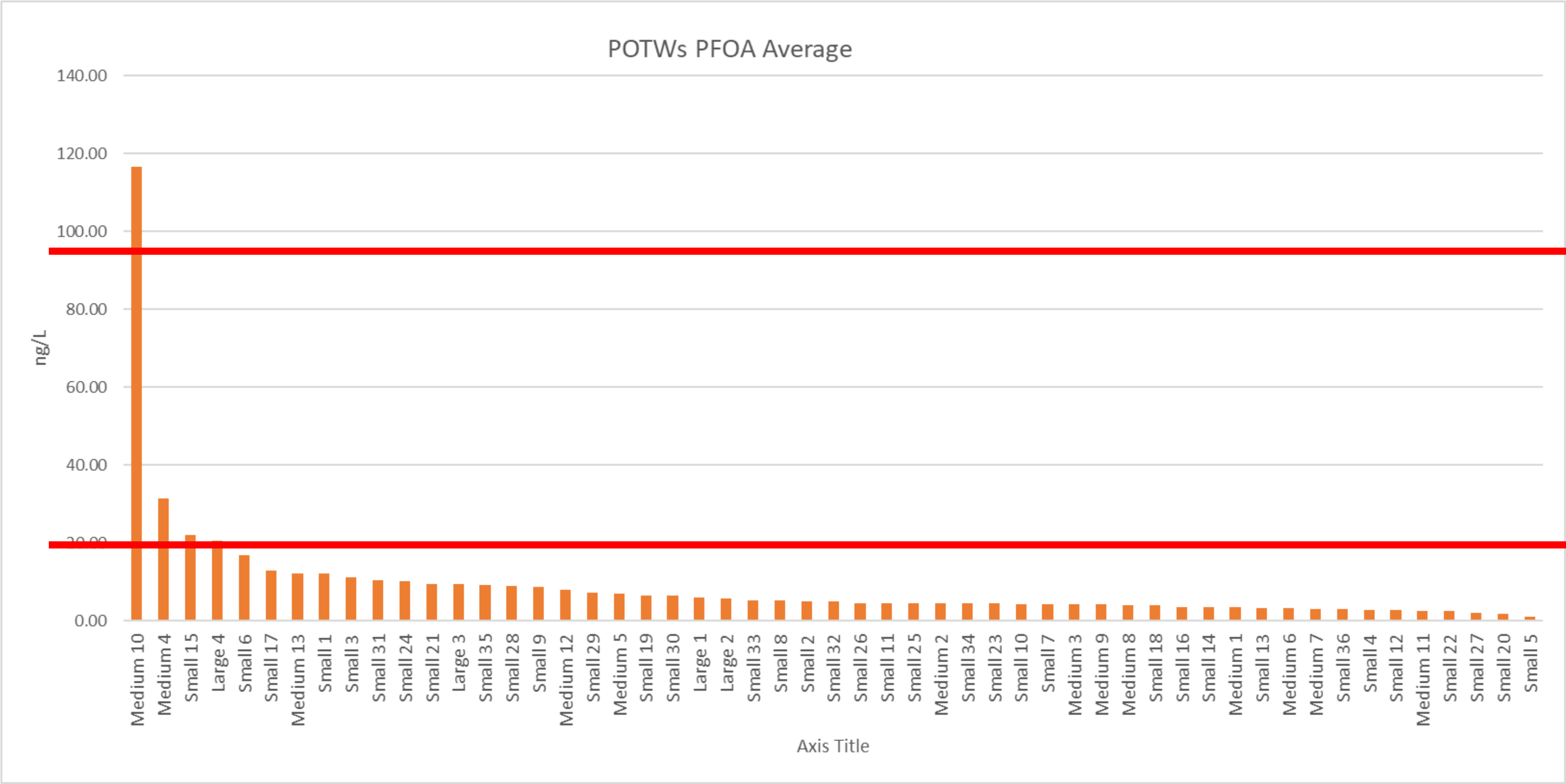


Facilities in Wisconsin with PFOA/PFOS Effluent Monitoring (As of 02/01/2025)

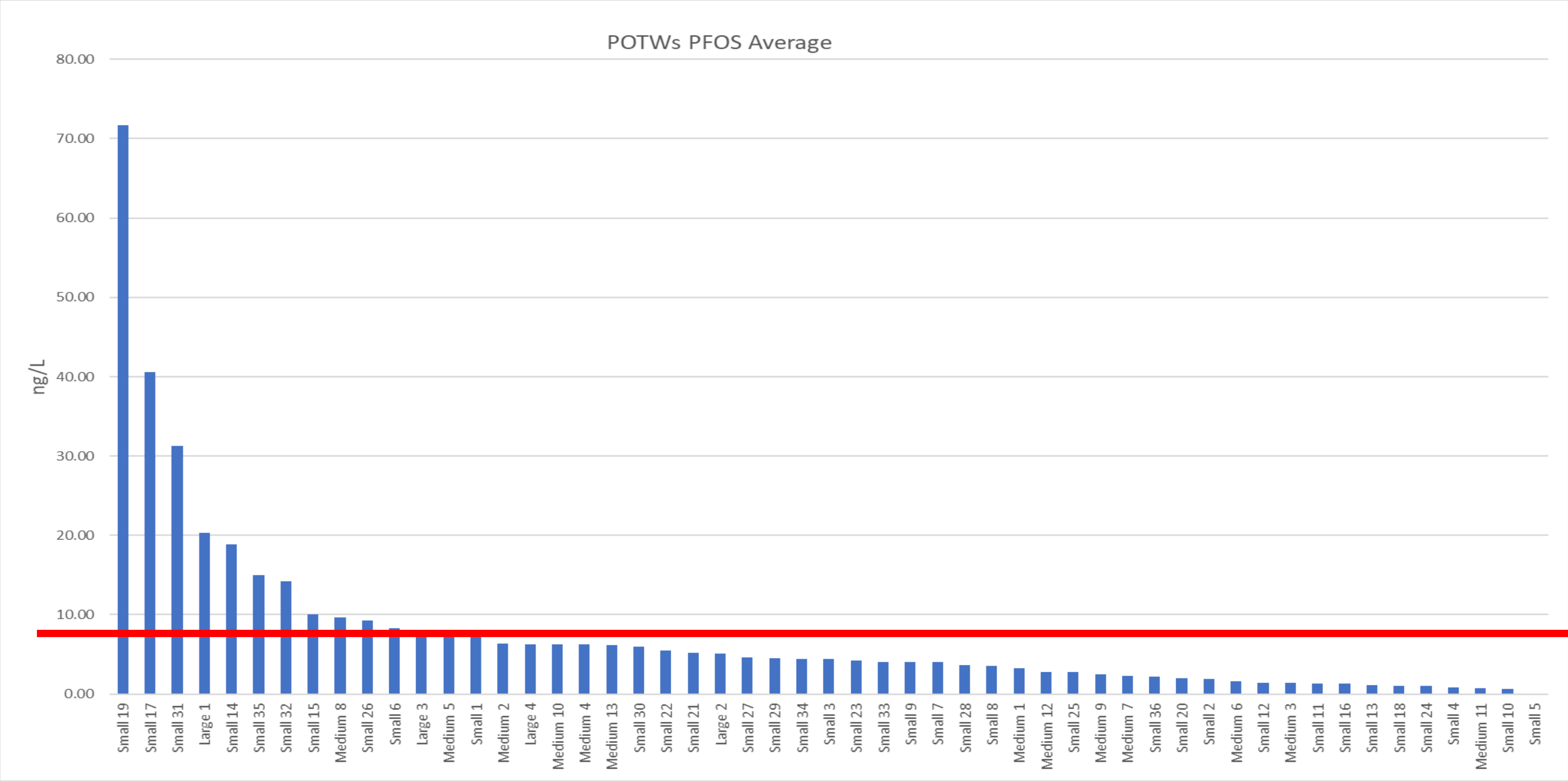
- 68* POTWs:
 - 22 Majors (>1 MGD)
 - 46 Minors (<1 MGD)
- 28* Industries:
 - 10 Pulp/Paper Manufacturers
 - 6 Power Generators
 - 3 Food Processors
 - 2 Metal Finishers
 - 2 Research Facilities
 - 1 Airport
 - 1 Chemical Manufacturer
 - 1 Metal Fabricator
 - 1 Fire Products Manufacturer
 - 1 Industrial Landfill

***NOTE:** This does not mean there is collected PFOA/PFOS effluent data for all these facilities, some facilities haven't discharged under the reissued permit, and some facilities' permits haven't been effective long enough for a sampling result to be submitted.

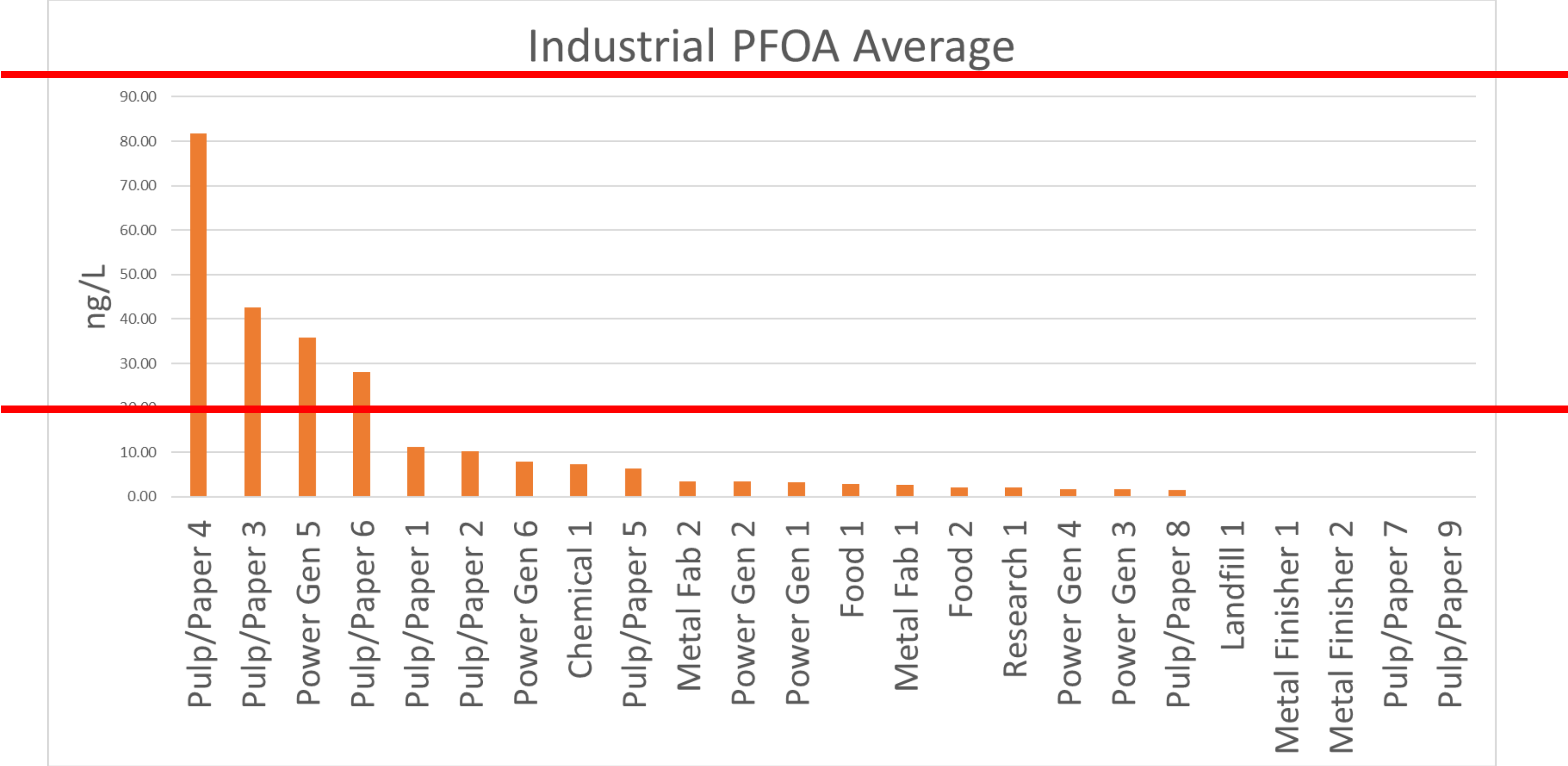
PFOA/PFOS Statewide Effluent Data (as of 02/01/2025)



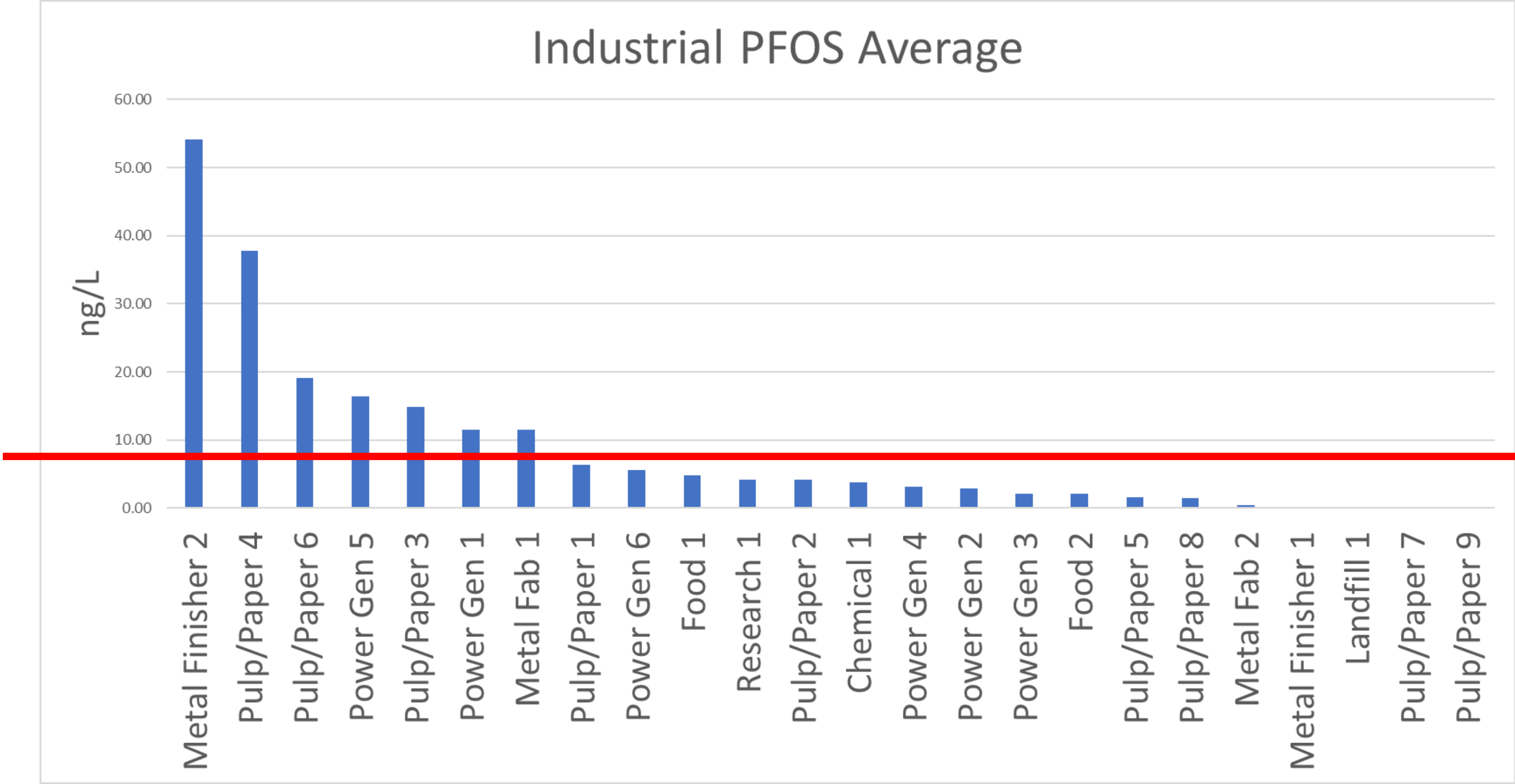
PFOA/PFOS Statewide Effluent Data (as of 02/01/2025)



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PFOA/PFOS Statewide Effluent Data (as of 02/01/2025)



PFOA/PFOS WI Effluent Data Snapshot

- Based on average reported values:
 - PFOA:
 - 2 POTWs discharging > applicable criteria
 - Zero industries discharging > applicable criteria
 - PFOS:
 - 20% of POTWs **w/ monitoring in WPDES permit** discharging > 8 ng/L
 - 38% of industries **w/ monitoring in WPDES permit** discharging > 8 ng/L
 - 33% of pulp/paper manufacturers discharging > 8 ng/L (3/9)
 - 33% of power generators discharging > 8 ng/L (2/6)

PFAS Analytical Requirements Update



PFAS Analytical Requirements Update



- After January 31, 2025, laboratories are no longer allowed to use their in-house isotope dilution method utilizing the WI PFAS Aqueous and Non-Aqueous Matrices Method Expectations document
 - This document is now retired unless otherwise directed by the DNR
- Regulated entities are now required to use **EPA Method 1633A** for non-drinking water matrices (i.e., wastewater/sludges)

How Does Switch to EPA 1633A Affect Labs/Permittees?

40 compounds reported versus 33 compounds

- Includes all 33 compounds previously reported using WI PFAS Expectations
- Includes the following 7 new compounds

☐ *NFDHA (Perfluoro-3,6-dioxaheptanoic acid) 151772-58-6*

☐ *PFEESA (Perfluoro(2-ethoxyethane)sulfonic acid) 113507-82-7*

☐ *PFMPA (Perfluoro-3-methoxypropanoic acid) 377-73-1*

☐ *PFMBA (Perfluoro-4-methoxybutanoic acid) 863090-89-5*

☐ *3:3FTCA (2H, 2H, 3H, 3H-perfluorohexanoic acid) 356-02-5*

☐ *5:3FTCA (2H, 2H, 3H, 3H-perfluorooctanoic acid) 914637-49-3*

☐ *7:3FTCA (2H, 2H, 3H, 3H-perfluorodecanoic acid) 812-70-4*

How Does Switch to EPA 1633A Affect Permittees?

- Updated naming conventions for reporting 5 compounds
 - Old: PFTriA -> New: PFTrDA
 - Old: FOSA -> New: PFOSA
 - Old: DONA -> New: ADONA
 - Old: F-53B Major -> New: 9Cl-PF3ONS
 - Old: F-53B Minor-> New: 11Cl-PF3OUdS

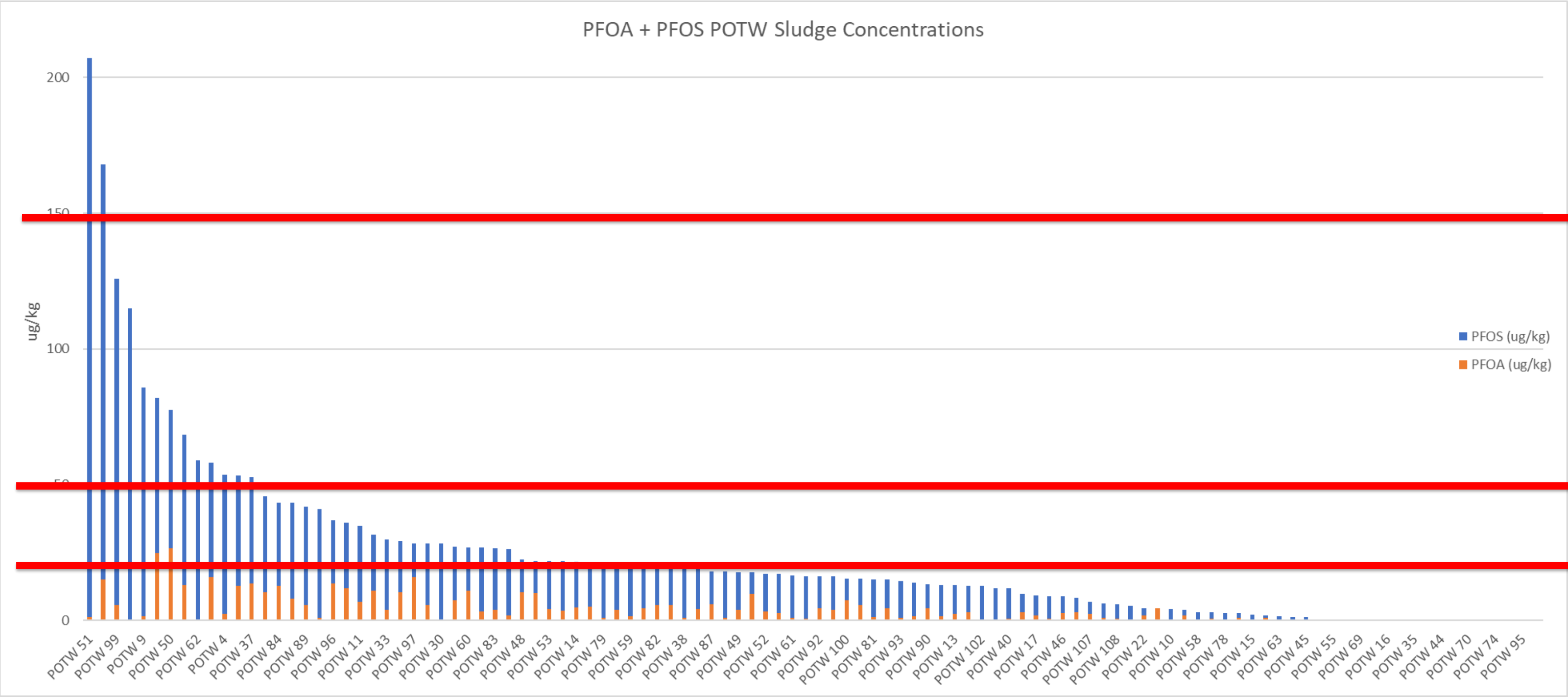
How Does Switch to EPA 1633A Affect Permittees?

- The method requires that effluent “Results associated with a QC failure cannot be used to demonstrate Clean Water Act regulatory compliance.”
 - This requirement applies to only QC associated with PFOS and PFOA as these are the two regulated analytes.
 - Reach out to Amy Garbe to discuss the next steps for a sample with failed PFOS/PFOA QC.

Land Application PFAS Update

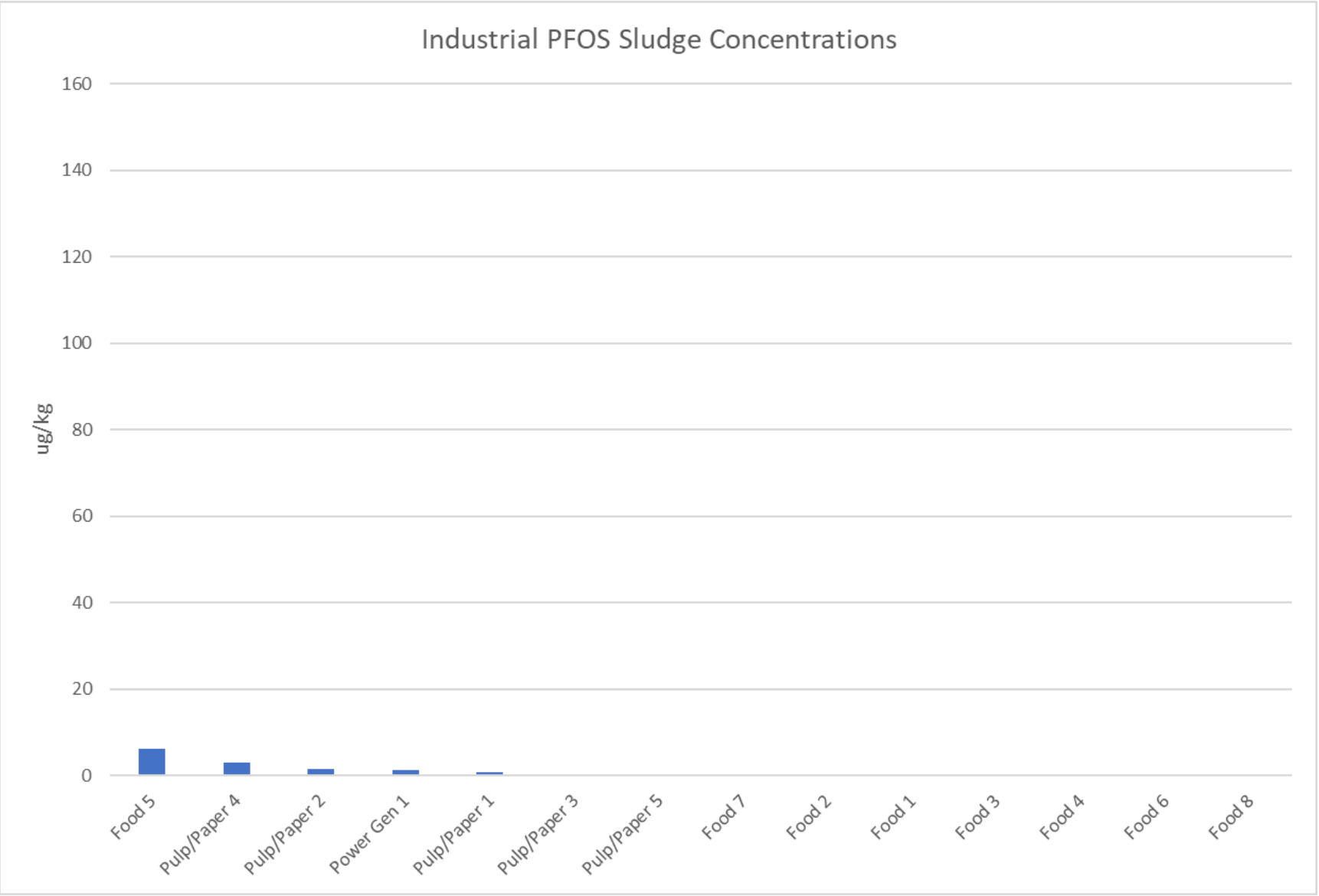
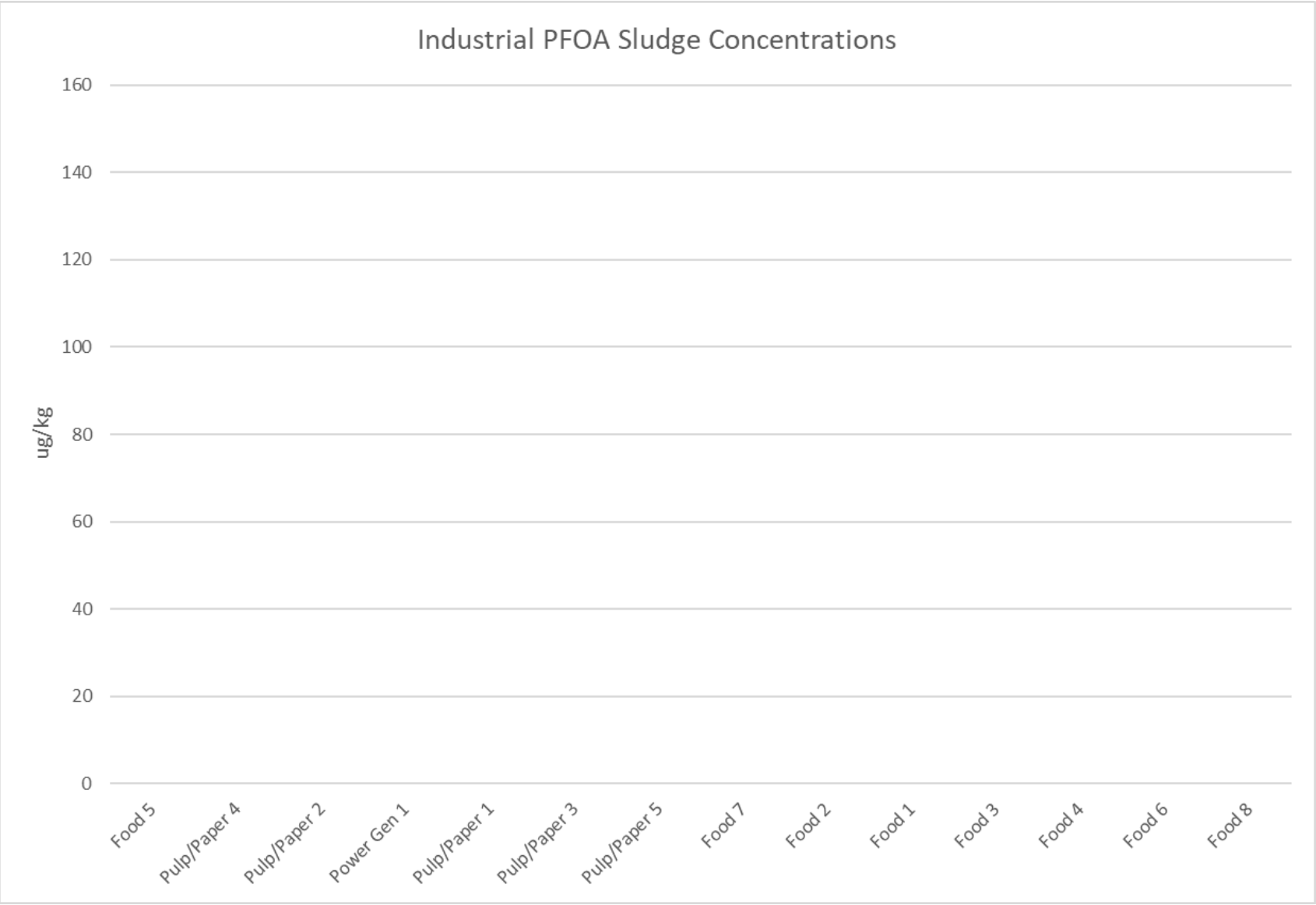


PFOA/PFOS Statewide POTW Sludge Data* (as of 02/01/2025)



*Some data pending verification

PFOA/PFOS Statewide Industrial Sludge Data (as of 02/01/2025)



PFOA/PFOS WI Sludge Data Snapshot

- Of POTWs with sludge data (ug/kg, PFOA + PFOS):
 - >150: 2/108 (1.8%)
 - 50 – 149.9: 11/108 (10%)
 - 20 – 49.9: 31/108 (29%)
 - 1 – 19.9: 47/108 (44%)



USEPA ***DRAFT*** PFOA/PFOS BIOSOLIDS RISK ASSESSMENT

- Focuses on those:
 - Living on or near impacted sites (e.g., farm families and their neighbors)
 - That rely primarily on their products (e.g., food crops, animal products, drinking water)
- **Does not model risks for the general public**



USEPA ***DRAFT*** PFOA/PFOS BIOSOLIDS RISK ASSESSMENT

- EPA modeled potential PFOA and PFOS exposures and estimated human health risks under three scenarios:
 - Application to a farm with pasture raised dairy cows, beef cattle, or chickens
 - Application to a farm growing fruits or vegetables
 - Application to reclaim damaged soils such as an overgrazed pasture



USEPA *DRAFT* PFOA/PFOS BIOSOLIDS RISK ASSESSMENT

- Highest risk pathways:
 - Milk from pasture-raised cows consuming contaminated forage, soil, and water
 - Water from contaminated surface or groundwater
 - Fish from a lake impacted by contaminated runoff
 - Beef or eggs from pasture-raised hens or cattle



USEPA *DRAFT* PFOA/PFOS BIOSOLIDS RISK ASSESSMENT

- Contains no legal requirements
- Conclusion: Toxicological data indicates that there may be potential health risks to certain individuals from land applying residuals which contain >1 ug/kg (ppb)
- DNR still evaluating
- Continue relying on Interim Strategy



Current WI Interim Strategy (Sewage Sludges and Industrial Sludges)

- Sets following thresholds/actions (combined PFOA + PFOS concentrations):
 - **<20 ug/kg (ppb):** Land apply per normal permitted approach.
 - **$20 \leq x < 50$ ug/kg (ppb):** Implement source reduction measures, no reduction in application rate recommended.
 - **$50 \leq x < 150$ ug/kg (ppb):** Implement source reduction measures. Reduce application rate to 1.5 dry tons per acre or submit an alternative risk mitigation strategy in an updated sludge management plan prior to land application. Seek alternative disposal options.
 - **≥ 150 ug/kg (ppb):** Find alternative means of disposal of biosolids; DNR will no longer approve new or transfer land application sites. Future permit reissuances may explicitly include land application prohibition based on PFOA/PFOS concentrations.

CONNECT WITH US

Sampling Techniques/Compliance/Analytical Methods

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Permit Implementation/Plan Review

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Biosolids & Industrial Sludge

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"WILD WISCONSIN:
OFF THE RECORD"