

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

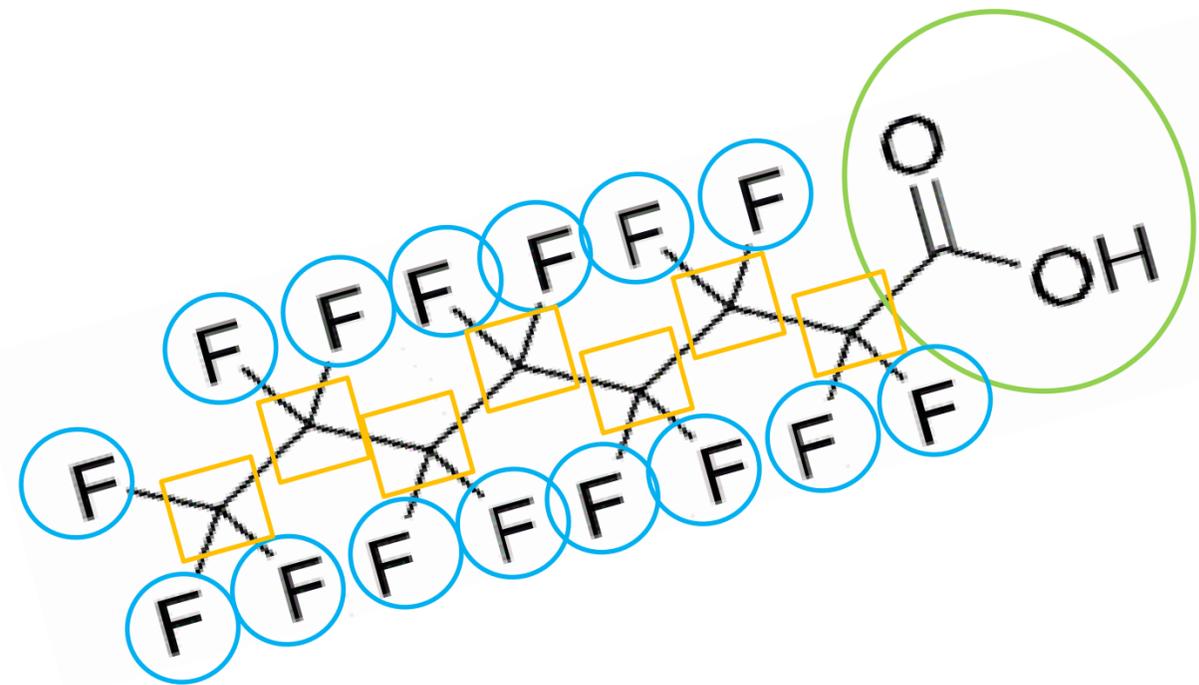
# DNR PFAS UPDATE

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Wastewater Engineer



# AGENDA

- PFOA/PFOS WQS Implementation Update
  - PFOA/PFOS Effluent Data
  - PFOA/PFOS Minimization Plan Timelines
  - PFOA/PFOS Minimization Plan Components
- Land Application PFAS Update
  - PFAS Sludge/Biosolids Data



# PFOA/PFOS Surface Water Rule Implementation



# PFAS Water Quality Standard

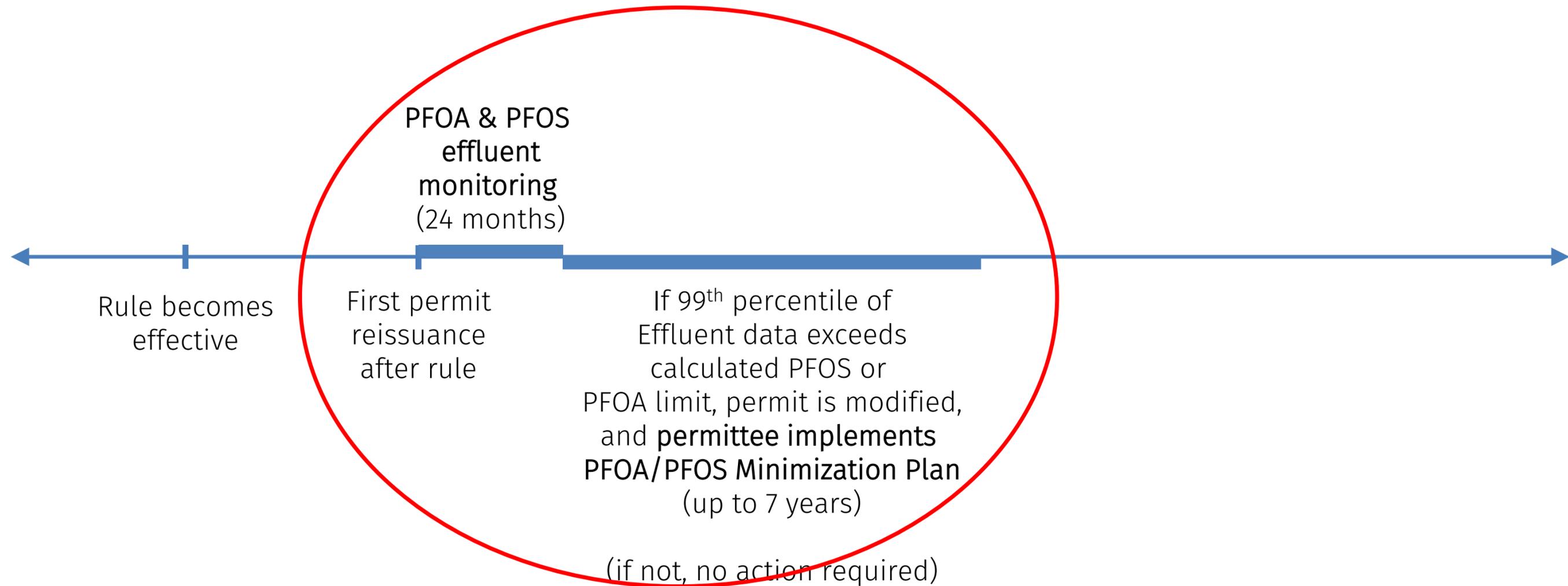
## **PFOS = 8 ng/L**

- Prevents issuance of 1 meal/month fish consumption advisory
- Effluent Limit = Standard

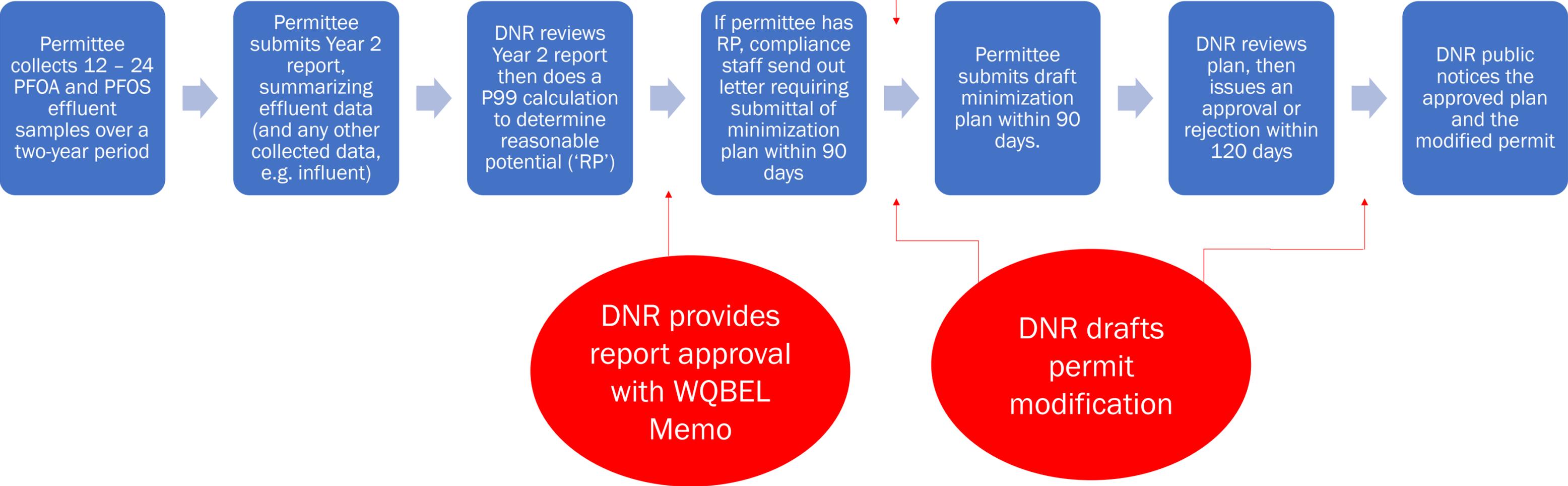
## **PFOA**

- **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
- Effluent Limits depend on effluent flow, receiving water flow, background concentration, and mixing zone

# Implementation Timeline



# Minimization Plan Timeline

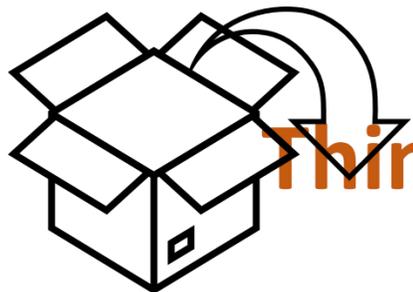


# PFOS/PFOA Minimization Plan Development

(s. NR 106.99 (1), Wis. Adm. Code Requirements)

**Actions should build on one another.**

- Identify potential sources.
- Monitor to determine pollutant contribution from each source.
- Develop actions to address contributing sources and timeline to implement.
- Document actions and evaluate progress, conduct more monitoring.
- Re-evaluate effectiveness adjust or develop new actions based on new information.



**Think outside the box. Source of pollutant may be in unexpected places.**

# PFOS/PFOA Minimization Plan (Municipal Dischargers)

(s. NR 106.99 (2), Wis. Adm. Code Requirements)

- (a) *Source identification.* Establish an inventory of treatment system users.
- (b) *Source monitoring.* Develop a monitoring plan to sample all probable sources of PFOS and PFOA.
- (c) *Perform source monitoring.* Provide sample results from each probable source identified in the plan.
- (d) *Actions to reduce or eliminate PFOS and PFOA in permitted discharges.*
- (e) *Education and outreach.* Include activities to educate the general public, industrial and commercial sewer system users.
- (f) *Other activities.* The plan may activities that the department, in consultation with the permittee, determines to be appropriate for the individual permittee's circumstances.

(**Resource** – Section 2.01, of the “PFOS and PFOA Minimization Plans” guidance document.)

# PFOS/PFOA Minimization Plan (Industrial Dischargers)

(s. NR 106.99 (3), Wis. Adm. Code Requirements)

- (a) *Source identification.* Establish an inventory of potential sources within facility.
- (b) *Improvement of operational controls of maintenance.*
- (c) *Substitution of raw materials or chemical additives.*
- (d) *Institution of alternative processes.*
- (e) *Clean up of historical contamination.* Include activities related to tank and process equipment cleanout.
- (f) *Other activities.* The plan may activities that the department, in consultation with the permittee, determines to be appropriate for the individual permittee's circumstances.

(Resource – Section 2.02, of the “PFOS and PFOA Minimization Plans” guidance document.)

# PFOS/PFOA Minimization Plan Development (Role of Source Identification & Mass Balance)

Key to a successful plan is identifying sources and developing & implementing actions to reduce those sources.

- A well-defined mass balance is central to good plan development.
  - Allows focus on larger sources.
- Pinpoint potential sources and identify if source is controllable (i.e. municipal water supply vs. industrial dischargers).

# Example Source Identification Summary

(for illustrative purposes only)

“Pollutant” Source Category	Annual Average “Pollutant” Mass (lbs/day)	Annual Percent of Total
Background from potable water supply wells	3,000	26%
Metal Finishers	1,000	9%
Landfill Leachate	600	5%
Contaminated sites (potentially containing “Pollutant”)	200	2%
Centralized Waste Treatment Facilities	3,800	33%
Hauled Wastes (septage, holding tank)	100	1%
Other Industrial Users	2,000	17%
Collection System (through I/I)	800	7%
<b>TOTAL</b>	<b>11,500</b>	<b>100%</b>

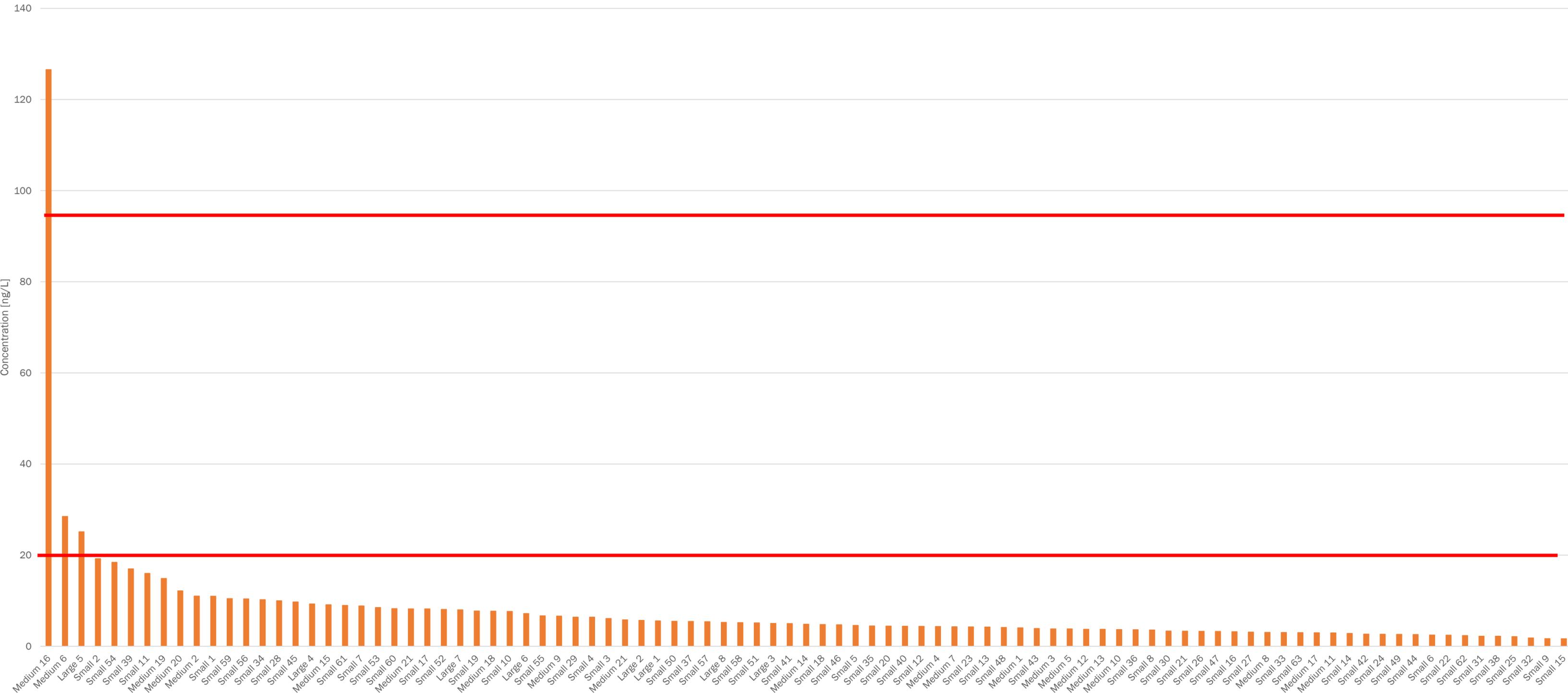
# Facilities in Wisconsin with PFOA/PFOS Effluent Monitoring (As of 02/01/2026)

- 107\* POTWs:
  - 34 Majors (>1 MGD)
  - 73 Minors (<1 MGD)
- 33\* Industries:
  - 12 Pulp/Paper Manufacturers
  - 7 Power Generators
  - 2 Food Processors
  - 2 Metal Finishers
  - 2 Research Facilities
  - 1 Airport
  - 1 Chemical Manufacturer
  - 2 Metal Fabricator
  - 1 Fire Products Manufacturer
  - 1 Industrial Landfill
  - 1 Superfund Site
  - 1 Refinery

**\*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.**

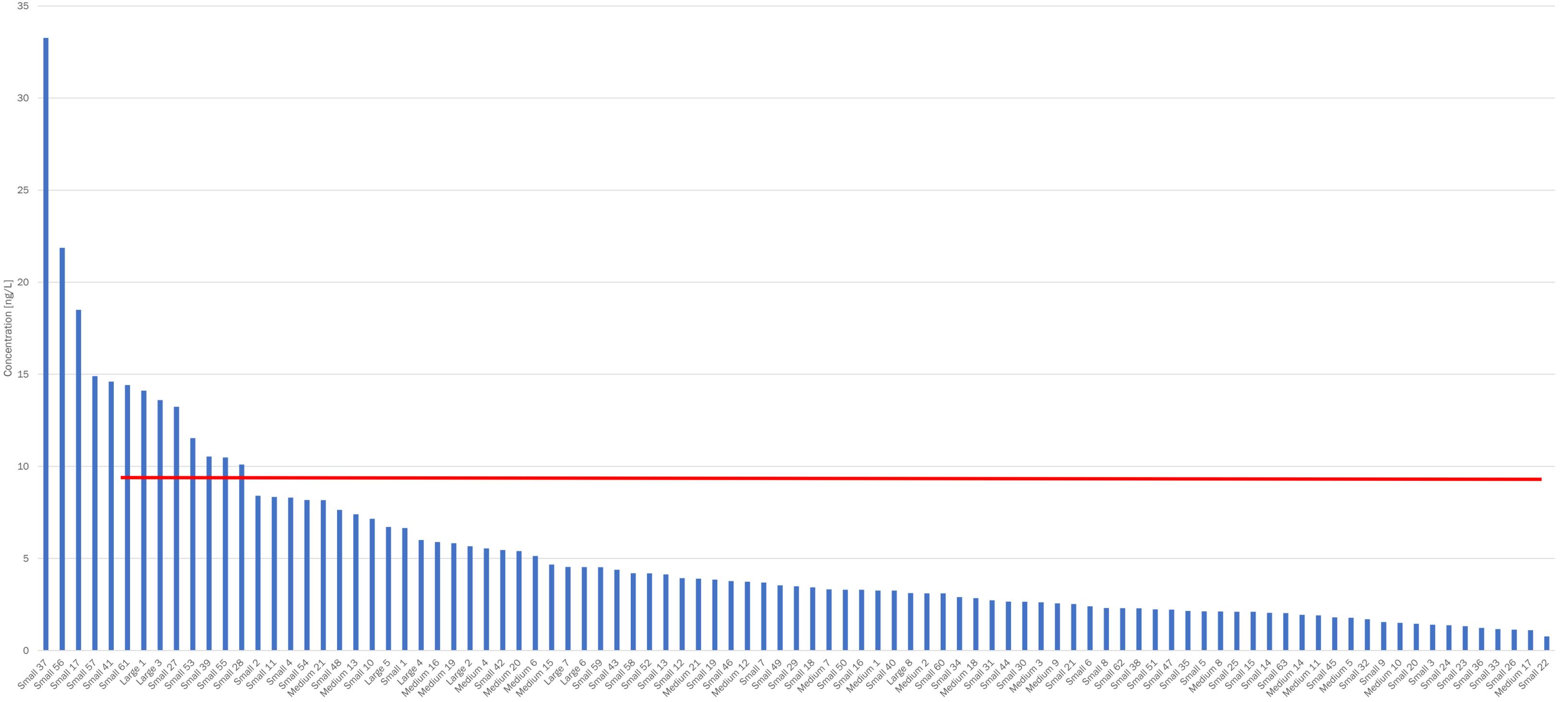
# PFOA/PFOS Statewide Effluent Data (as of 02/01/2026)

POTWs Average Effluent PFOA



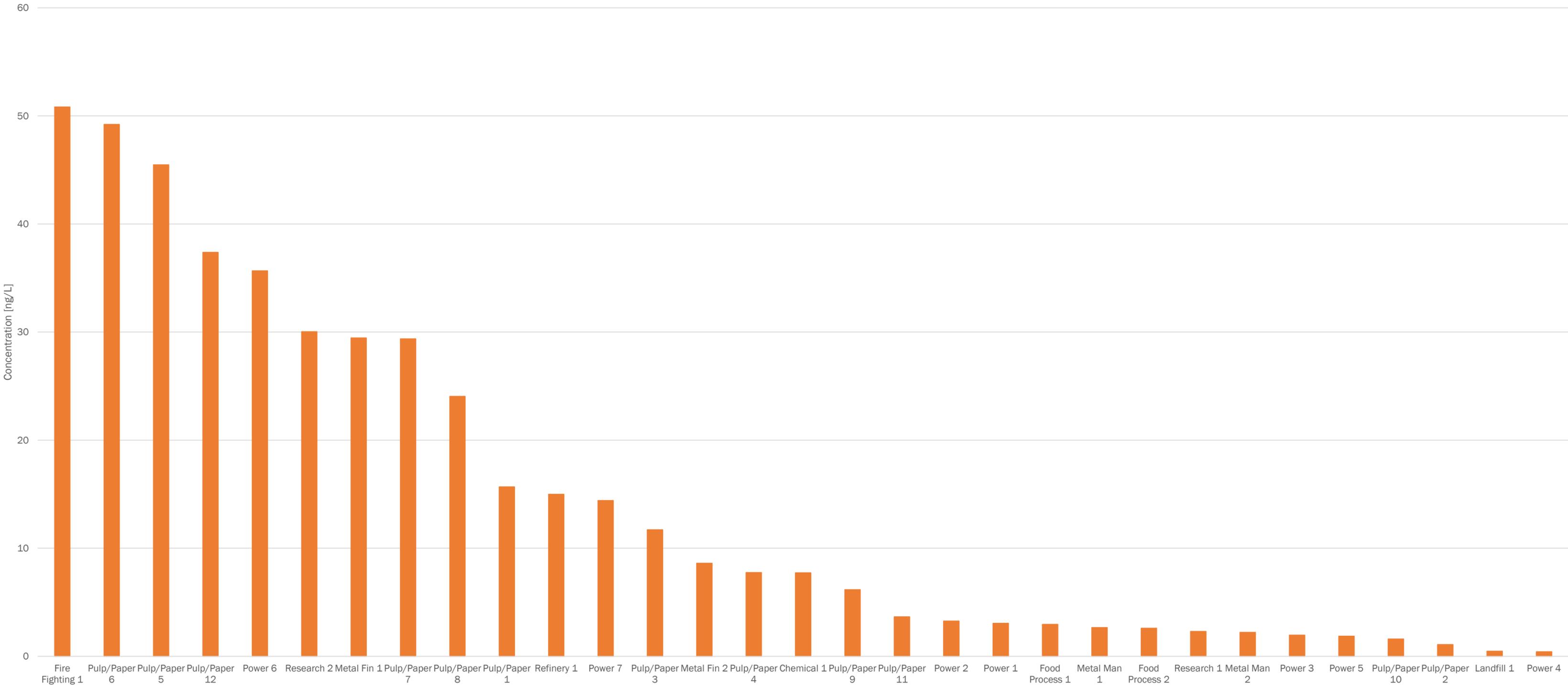
# PFOA/PFOS Statewide Effluent Data (as of 02/01/2026)

POTW Average Effluent PFOS



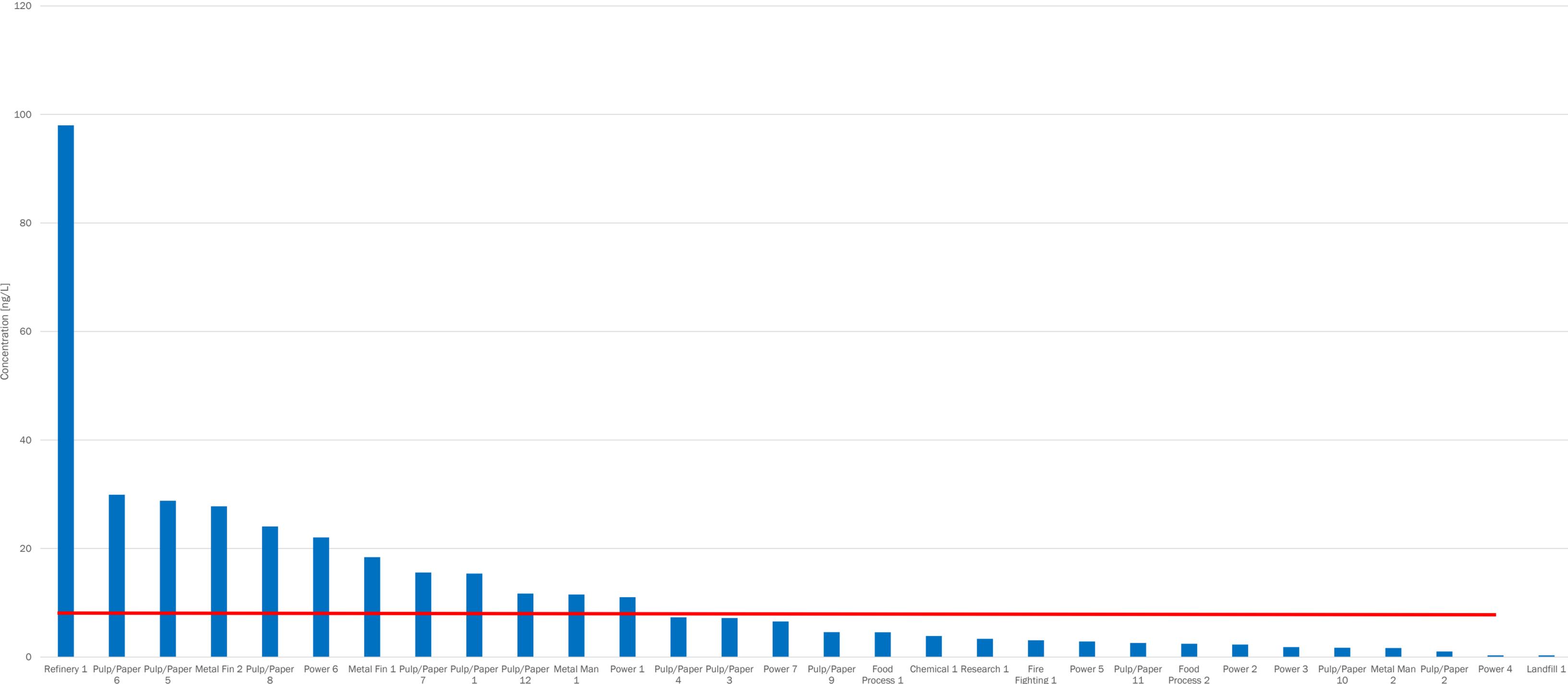
# PFOA/PFOS Statewide Effluent Data (as of 02/01/2026)

Industrial Effluent Average PFOA Results



# PFOA/PFOS Statewide Effluent Data (as of 02/01/2026)

Industrial Effluent Average PFOS Results



# PFOA/PFOS WI Effluent Data Snapshot

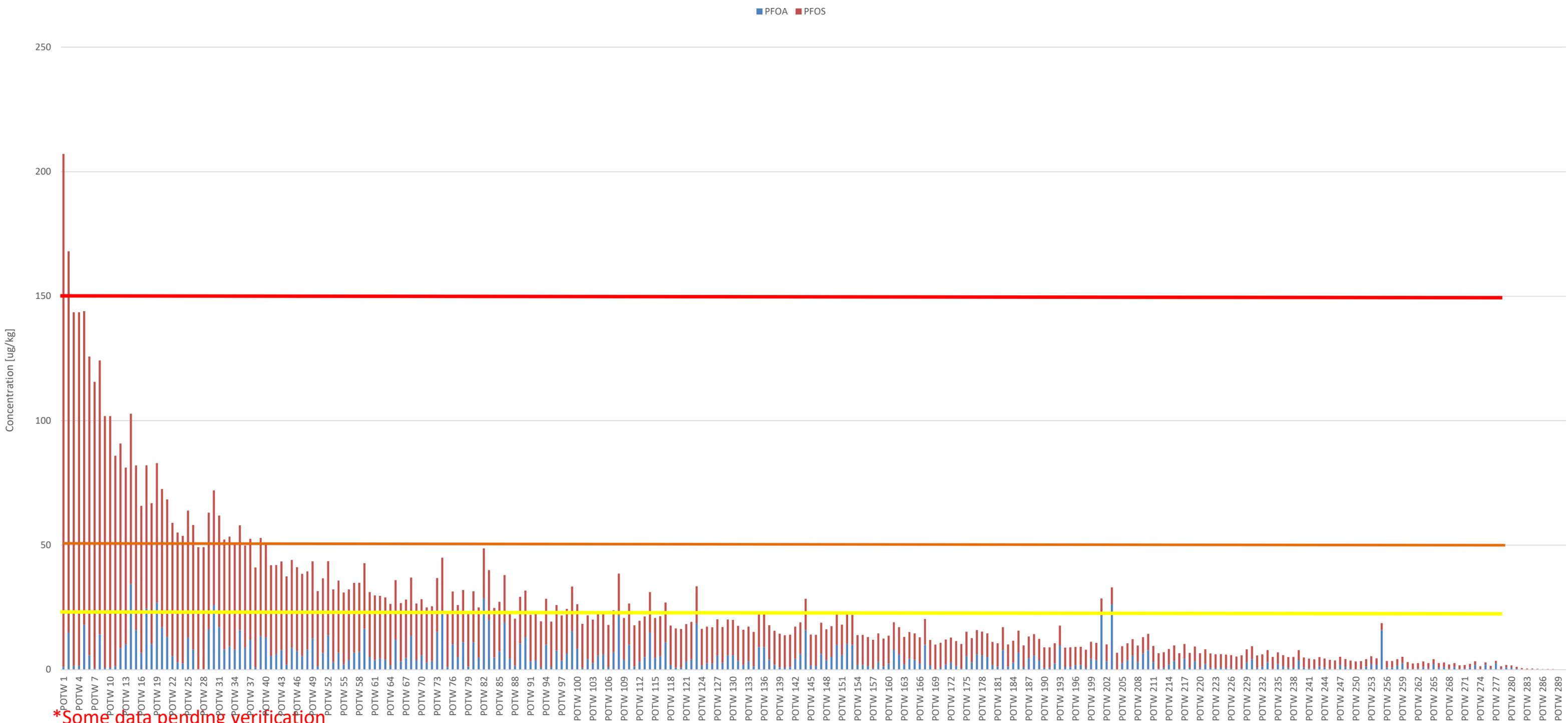
- Based on average reported values:
  - PFOA:
    - 3 POTWs discharging > applicable criteria
    - Zero industries discharging > applicable criteria
  - PFOS:
    - 38% of POTWs **w/ monitoring in WPDES permit** discharging > 8 ng/L
    - 42% of industries **w/ monitoring in WPDES permit** discharging > 8 ng/L
      - 50% of pulp/paper manufacturers discharging > 8 ng/L (6/12)
      - 29% of power generators discharging > 8 ng/L (2/7)

# Land Application PFAS Update



# PFOA/PFOS Statewide POTW Sludge Data\* (as of 02/01/2026)

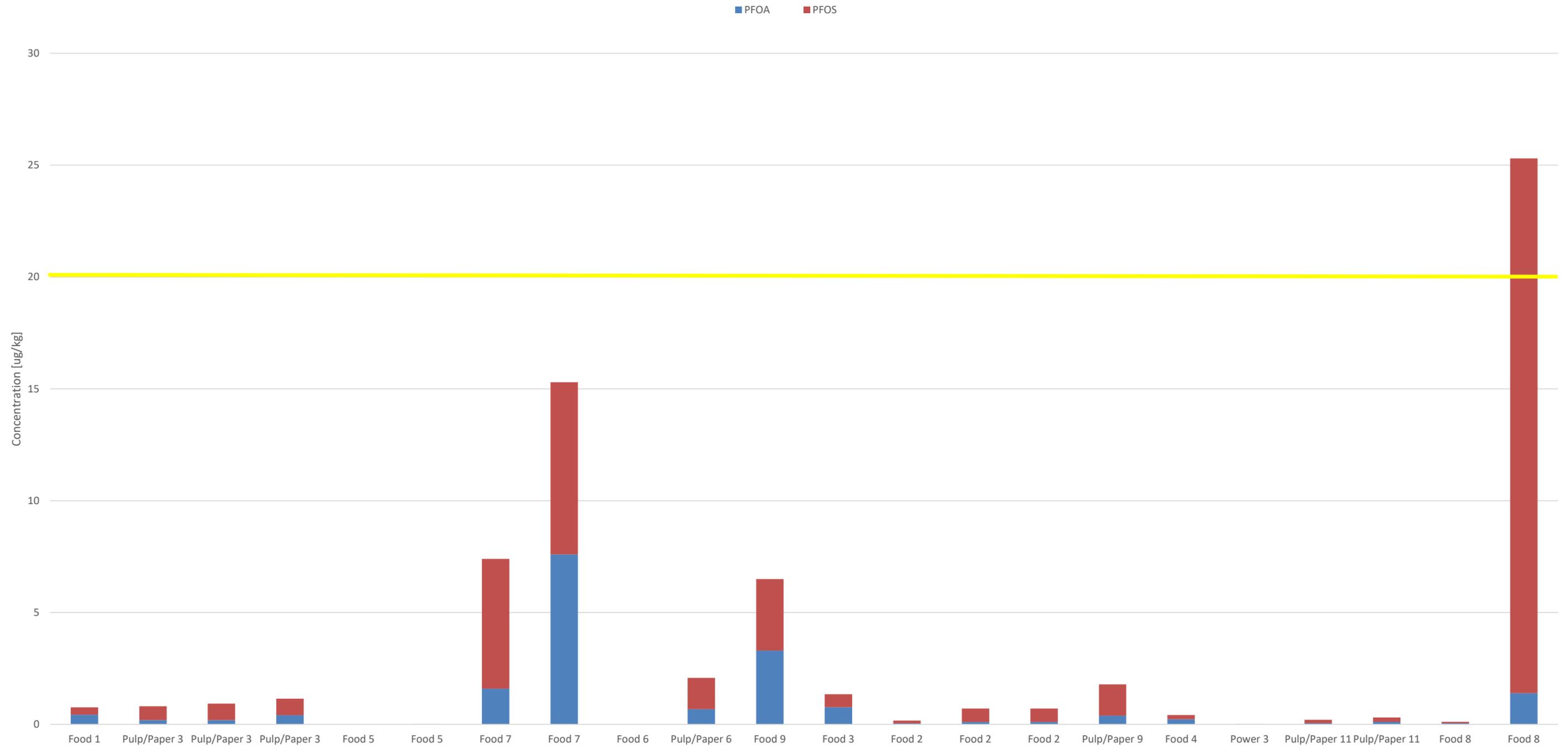
PFOA + PFOS POTW Sludge Concentrations



\*Some data pending verification

# PFOA/PFOS Statewide Industrial Sludge Data (as of 02/01/2026)

PFOA + PFOS Industrial Sludge Concentration



# 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.
  - **$\geq 150$  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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"WILD WISCONSIN:  
OFF THE RECORD"