
Lake County Department of Public Works

PFAS Study Overview

(per- and polyfluoroalkyl substances)

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Outline

- Introduction
- PFAS in Drinking Water
 - Regulations, monitoring, conclusions, and next steps
- PFAS in Wastewater and Biosolids
 - Regulations, monitoring, conclusions, and next steps
- Questions



Introduction

Introduction and Project Goals

- Nathan Cassity, P.E. – Donohue project manager
- Hanting Wang, P.E. – Donohue process engineer
- Retained by Lake County Public Works (LCPW) to:

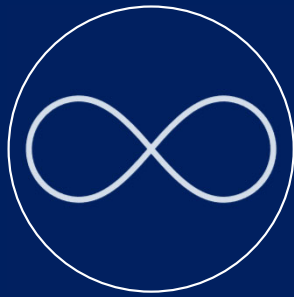


Review Current
PFAS
Regulations

Review Existing
PFAS Water
Quality Data

Evaluate
Treatment
Solutions for
PFAS
Reduction

Why is PFAS in the Spotlight?



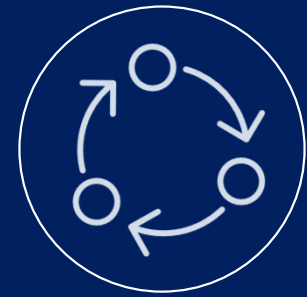
PFAS are
“forever
chemicals”



PFAS have
been used in
many products
for decades



PFAS may be
harmful to
human health



PFAS can
easily move
through soil
and water



PFAS in Drinking Water

USEPA Established PFAS Regulations for Drinking Water

- As of August 2025:



Maximum contaminant levels (MCLs) for six PFAS compounds

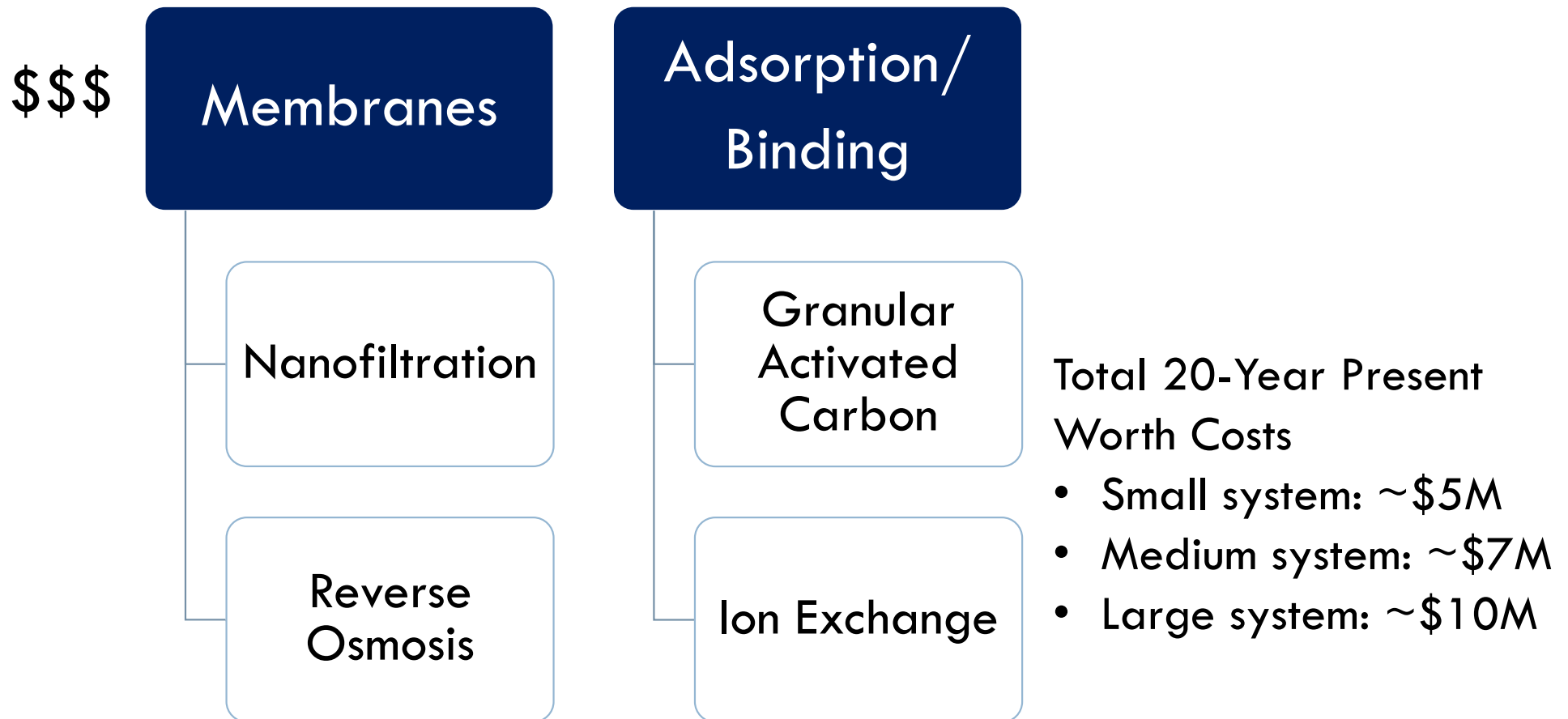


Monitoring required quarterly or twice within a 12-month period by April 2027



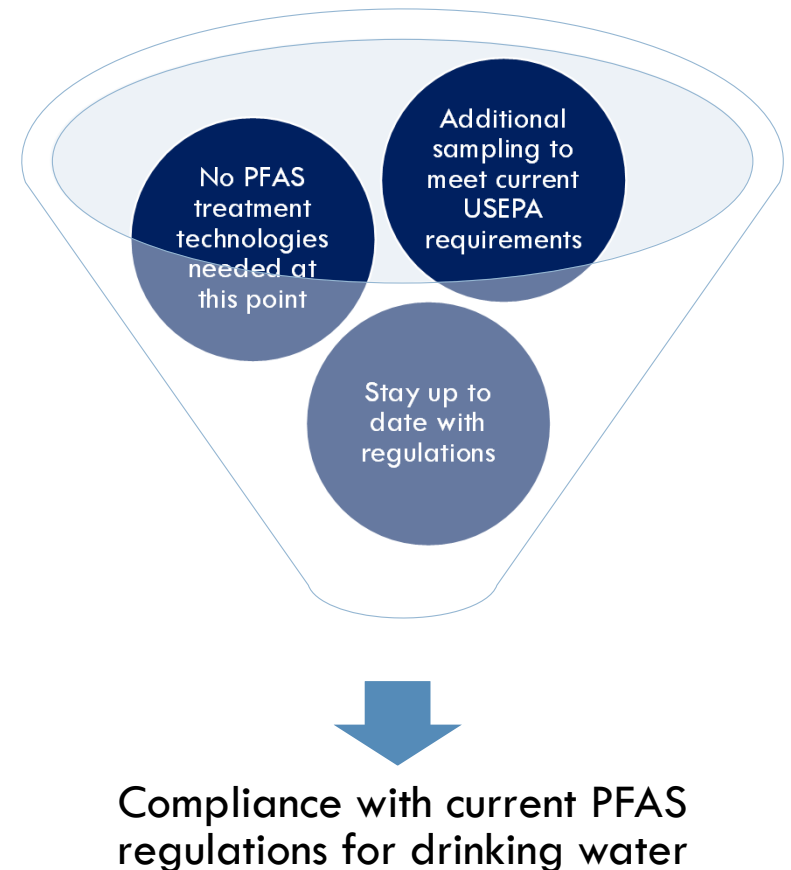
Compliance with MCLs by April 2029

Common Treatment Technologies for PFAS Removal from Drinking Water



Drinking Water Samples Collected are Below MCLs

- LCPW has collected samples for PFAS monitoring at public water supplies with active and backup wells
- Donohue conclusions and recommendations
 - All results are below USEPA MCLs
 - No treatment technologies needed at this point
 - Conduct additional sampling to meet current USEPA requirements
 - Stay up to date with regulations





PFAS in Wastewater and Biosolids

No Federal PFAS Regulations for Wastewater

- Language is being added to draft permits for PFAS monitoring, reporting, and reduction initiatives
- LCPW is actively monitoring PFAS concentrations in wastewater effluent

Location	Compound	Results from January 2023	Results from December 2024	Wisconsin Surface Water Standard
Des Plaines River Effluent	PFOS	1.9 ng/L	<2 ng/L	8 ng/L
	PFOA	6.3 ng/L	5.2 ng/L	95 ng/L
Mill Creek Effluent	PFOS	2.2 ng/L	3.5 ng/L	8 ng/L
	PFOA	8.4 ng/L	12 ng/L	95 ng/L
New Century Town Effluent	PFOS	2.1 ng/L	1.9 ng/L	8 ng/L
	PFOA	5.0 ng/L	4.2 ng/L	95 ng/L

- Results are well below the Wisconsin Surface Water Standards

No Federal PFAS Regulations for Biosolids

- Language is being added to draft permits for PFAS monitoring, reporting, and reduction initiatives
- LCPW is actively monitoring PFAS concentrations in biosolids

Location	Compound	Results from January 2023
Des Plaines River Effluent	PFOS	26 ug/Kg
	PFOA	23 ug/Kg
	PFOS + PFOA	49 ug/Kg
Mill Creek Effluent	PFOS	14 ug/Kg
	PFOA	9.5 ug/Kg
	PFOS + PFOA	23.5 ug/Kg
New Century Town Effluent	PFOS	30 ug/Kg
	PFOA	14 ug/Kg
	PFOS + PFOA	44 ug/Kg

Looking at Wisconsin's Interim Strategy for Land Application of Biosolids Containing PFAS:

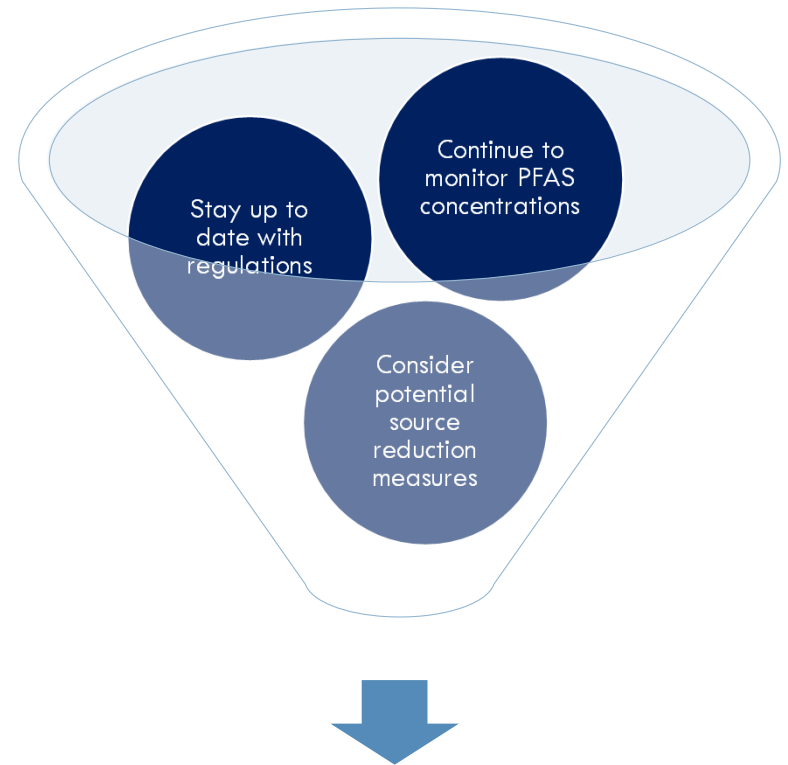
- All three plants would warrant sampling of effluent, investigation of sources for source reduction, and monitoring of land application rates

Source Reduction will be Key for PFAS Removal in Wastewater and Biosolids

- PFAS treatment technologies from wastewater is not a well-researched topic at this time
 - Source reduction from dischargers is the primary response
- Development of PFAS treatment technologies for biosolids is growing
 - Incineration is used, but permit approval will be challenging
 - Pyrolysis is promising, but has 20-year present worth costs of \$50M

Proactive Ways to Meet Future PFAS Regulations for Wastewater and Biosolids

- Donohue conclusions and recommendations
 - Continue to monitor PFAS concentrations in wastewater and biosolids
 - Stay up to date with regulations
 - Consider potential source reduction measures
 - Increase public awareness through public outreach measures



Proactive about meeting future PFAS regulations for wastewater and biosolids

Questions