

Developing a PFAS Response Plan to Maintain Public Trust

Salem's Case Study

Introductions/ Acknowledgements

Nitin Joshi



City of Salem

Environmental &
Operations
Technology Manager

Libby Bakke



Conсор

Strategic Planning &
Communications Technical
Director

Tyler Kane



Carollo Engineers

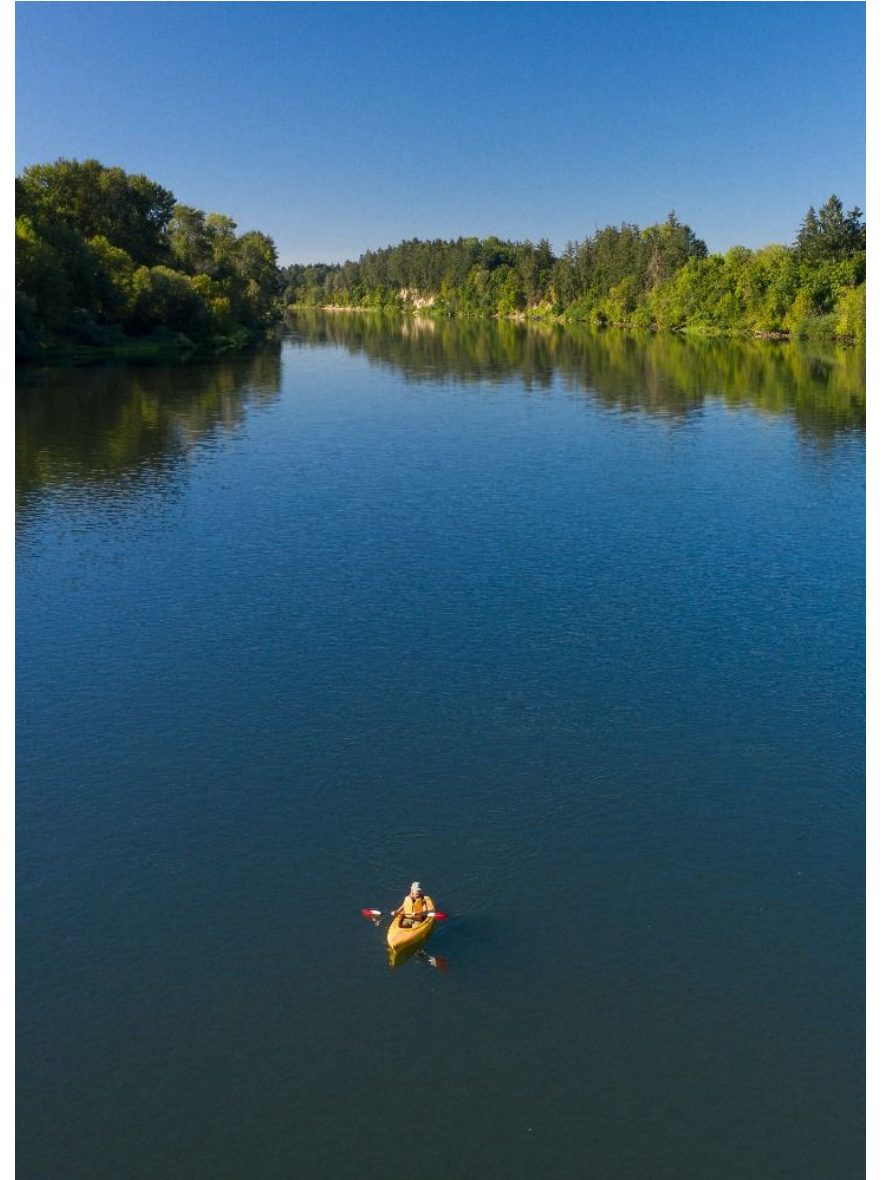
Engineer
PNW PFAS Lead

Agenda

Time	Topic
4:00 PM	Background
4:10 PM	Developing the Response Plan
4:15 PM	Maintaining Public Trust
4:20 PM	Lessons Learned for Your Response Plan
4:25 PM	Discussion/ Questions

Takeaways

1. Transparent communication is key.
2. Stakeholder & elected official support is key.
3. Partnerships are key.

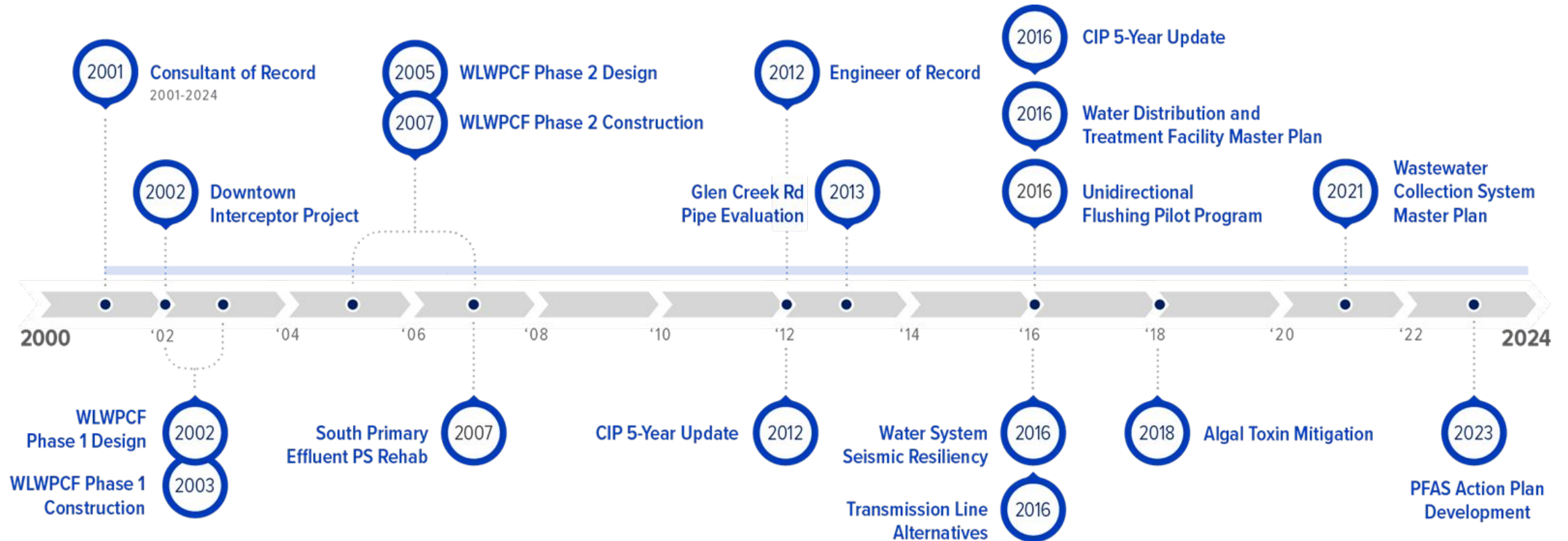


Willamette River

1

Background

Working with Salem over the Years



Background



Willow Lake WW Pollution Control Facility

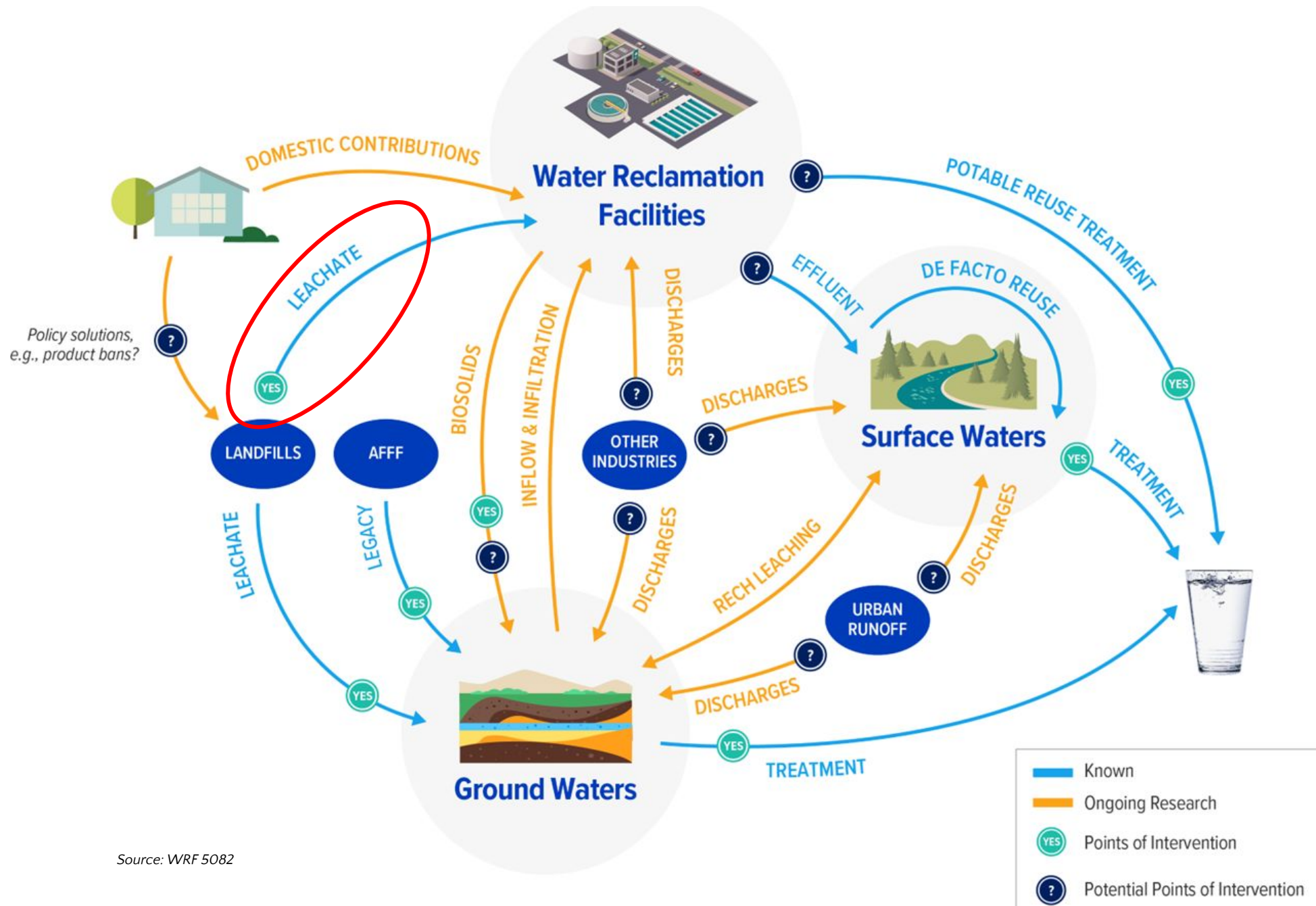


Geren Island Water Treatment Plant

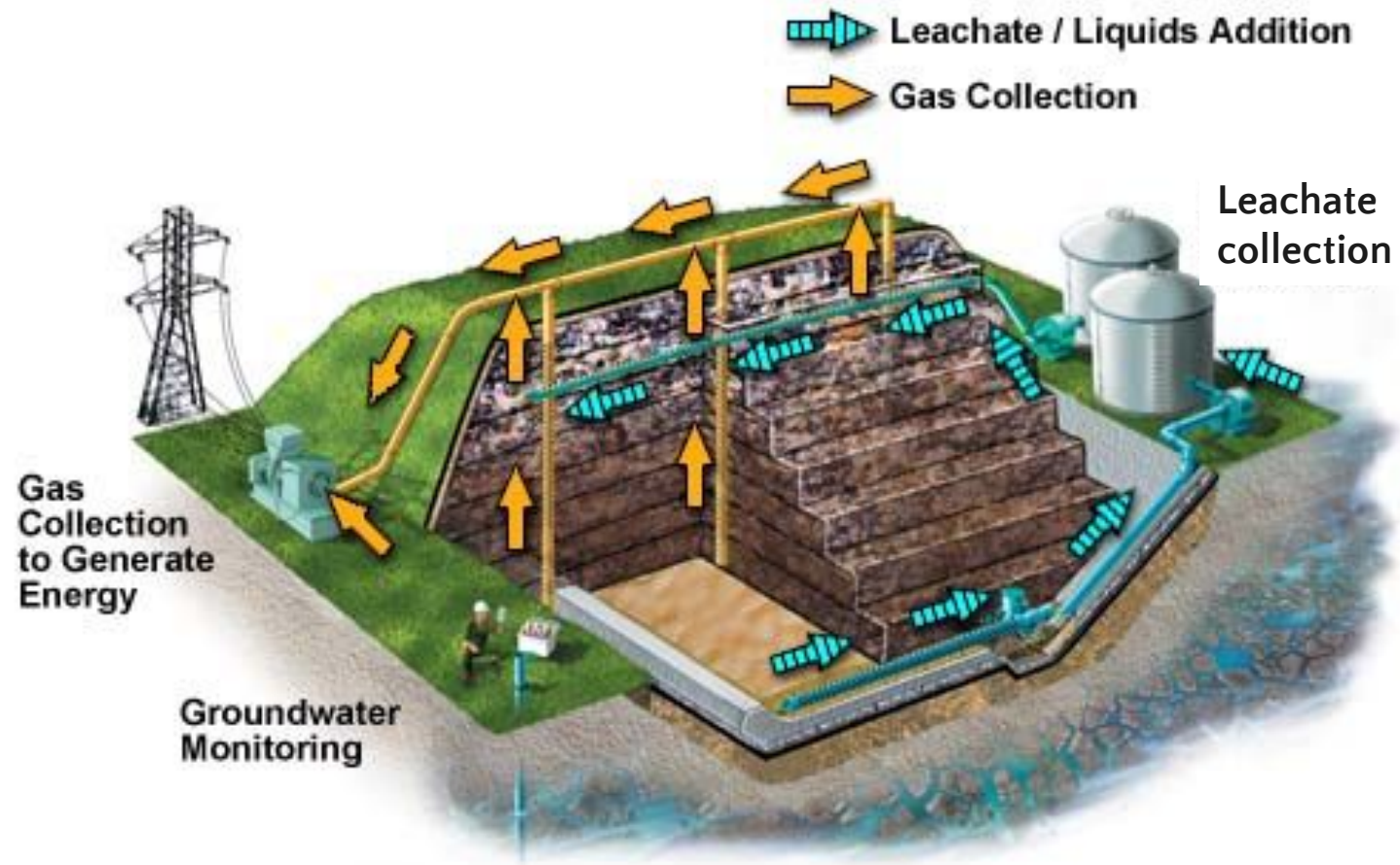
Background

- Early 2023 – news articles raised concerns over receiving landfill leachate.
 - » Nearby WWTP rejected leachate due to high PFAS.
 - » Willow Lake continued to receive leachate from same landfill (and others).
 - » Public request to see PFAS data; calls/letters to council.
- Salem had begun sampling to understand risk and be able to have a basis for future decision making.
- Carollo & Consor were contracted to support early responses, which lead to the development of a PFAS response plan.





Source: WRF 5082



Courtesy of Waste Management

Early Questions faced by the City:

- What are PFAS?
- How am I exposed to PFAS? What are the health effects?
- Is my water safe to drink?
- Are there PFAS in the wastewater? Where is it coming from?
- Is the WWTP removing PFAS? Is it creating them?
- Are we polluting the Willamette with PFAS?

- *Requests/ calls to action from organizations.*
- *“What are we doing about this?” from City Council.*

What's the Plan?

- Provide reliable information to public ASAP.
- Develop near and long-term communications strategy.
- Evaluate the situation nationally and locally.
- Identify additional steps can the City begin taking.
- Any decisions on leachate should be:
 - » Informed within the context of a larger plan & future regulations.
 - » Supported by community members, elected officials, and stakeholders.
 - » Focused on partnerships and collaboration to create a holistic solution.

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Developing the PFAS Response Plan

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First Steps...

- Efforts began with workshops to collaborate with City staff and the current situation and identify risks specific to Salem.
- Goals:
 - » Review the City's existing PFAS data.
 - Water system, WW effluent, biosolids, & background levels upstream of effluent.
 - » Provide current understanding of the PFAS regulatory environment.
 - » Identify risks and opportunities.
 - » Identify next steps to mitigate PFAS risks throughout water and wastewater systems, while managing changing regulations.



Bring everybody to the table



PESTLE Exercise!



Instructions:

1. Using the 6 whiteboards placed around the room, add sticky notes with risks or opportunities to whiteboard with the most relevant title.
 - » Yellow = risks
 - » Blue = opportunity
2. Breakout in groups to discuss results, and group sticky notes based on themes.
3. Group discussion on themes.
4. Vote on top risks and opportunities.

EXAMPLE: PESTLE – Develop ideas

Political



Economic



Social



Technical



Legislative/Legal



Environmental



Risk register sets the stage for the PFAS Response Plan

Risk Identification		Risk Analysis					Risk Response			Risk Monitoring	
Risk ID	Risk Description	Risk Probability (%)	Schedule Impact (Weeks)	Cost Impact (K\$)	Expected Risk Exposure		Risk Owner	Risk Response Strategy	Actions undertaken	Risk Status	Status Description
					(Weeks)	(\$K)					
1					0	0					
2					0	0					
3					0	0					
Risk Identification		Risk Evaluation		Risk Response		Risk Monitoring					
5					0	0					
6					0	0					
7											
				Residual Risk							
8					0	0					
9					0	0					
10					0	0					

Example Risk Register

Evaluating the Risk Register

- After ranking top risks and opportunities, key components of the Response Plan emerged:
 - Continued sampling & analysis.
 - Regulatory review, tracking, and advocacy.
 - Communications strategy.
 - Partnership strategy.
 - Funding/ CIP strategy.
- City sought to organize these components into a Response Plan that would serve as a live, internal document that can be updated over time as risks, opportunities, and regulations evolve.

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Maintaining Public Trust

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Securing Support of City Council

Salem City Council Chambers – Nov. 2023

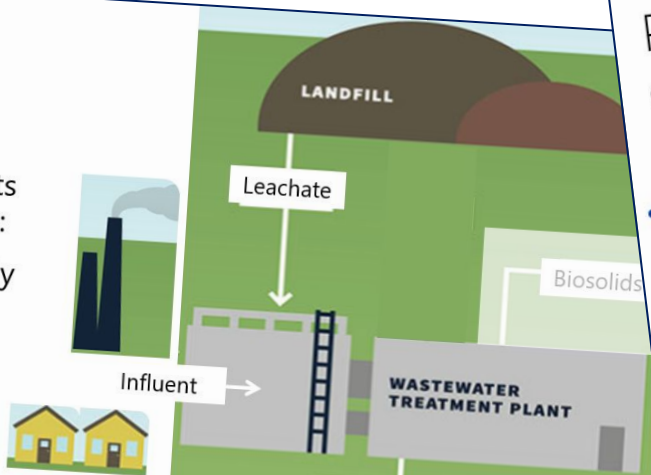
- The City sought to inform City Council on the PFAS situation and plans to keep council informed as the situation evolves.



Establish context for results

Wastewater Status

- Wastewater treatment plants (WWTPs) receive PFAS from:
 - » Industrial sources (typically concentrated streams).
 - Waste from industry.
 - Landfill leachate.
 - » Domestic sources (households)



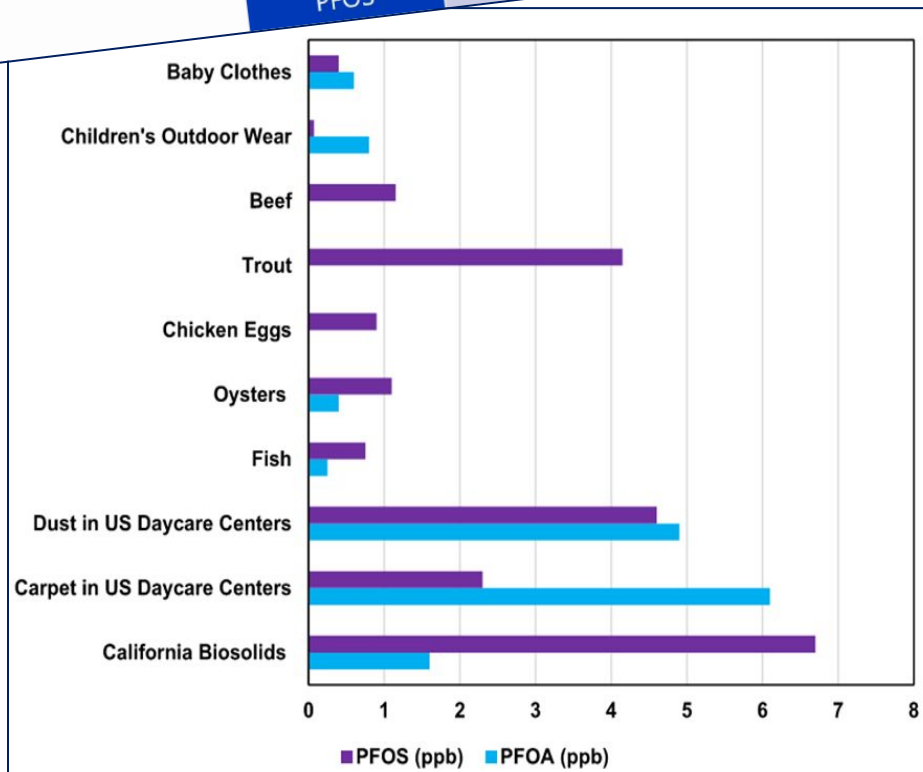
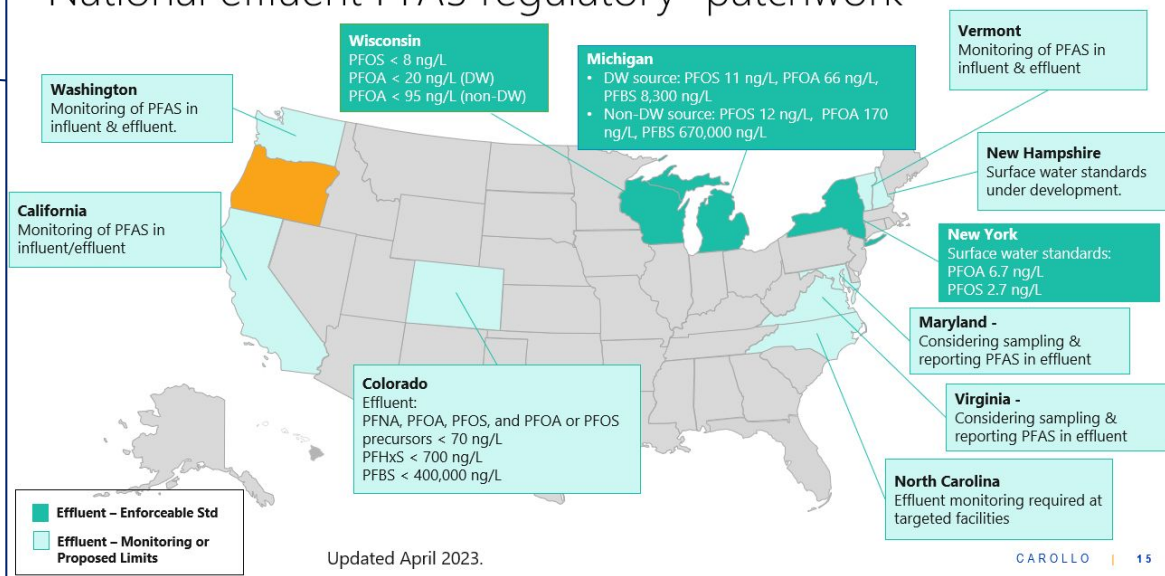
PFAS are in virtually all wastewater effluents across the country.

- Wastewater treatment plants (WWTPs) do not create PFAS, but receive it through pollution.

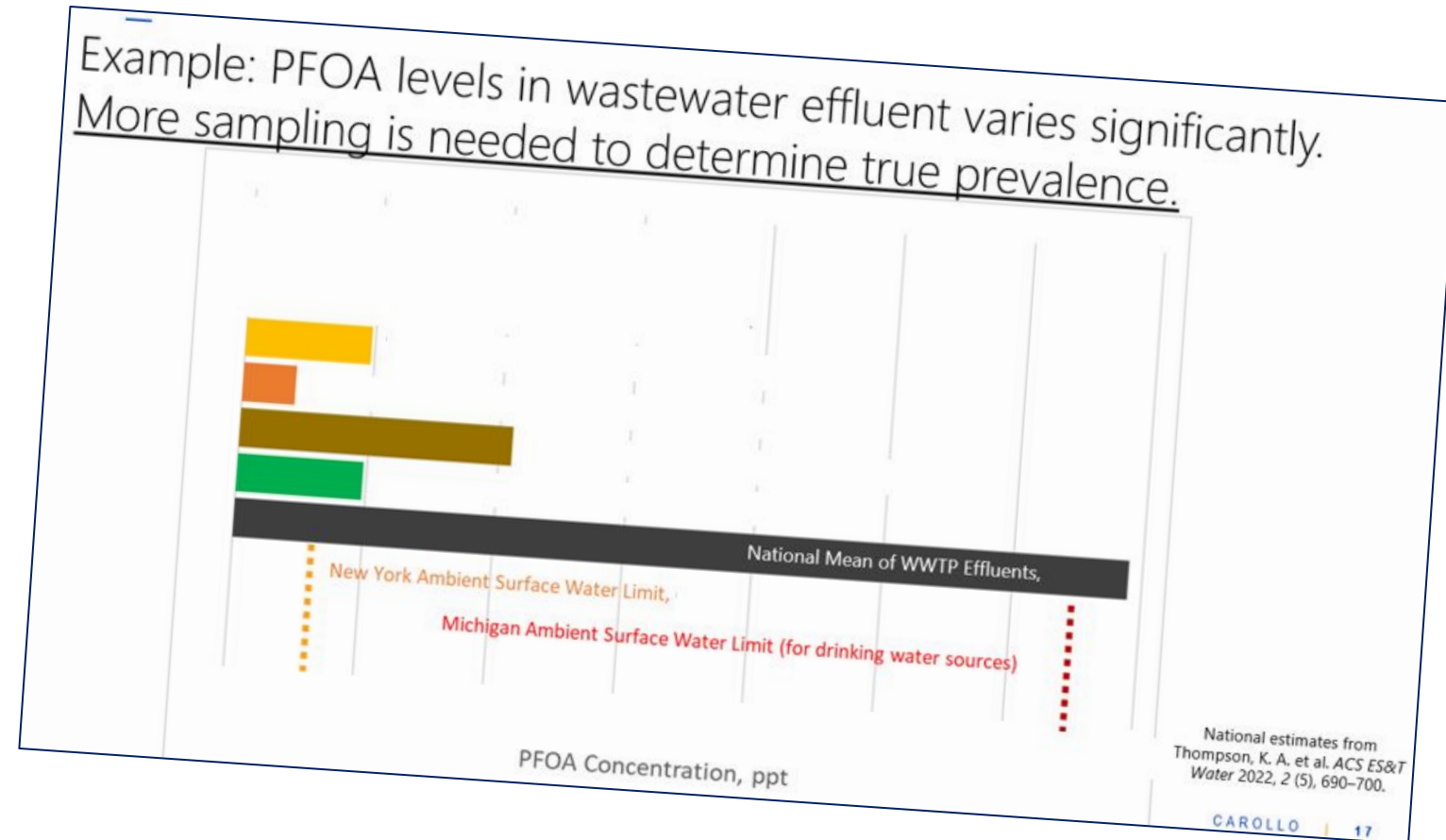
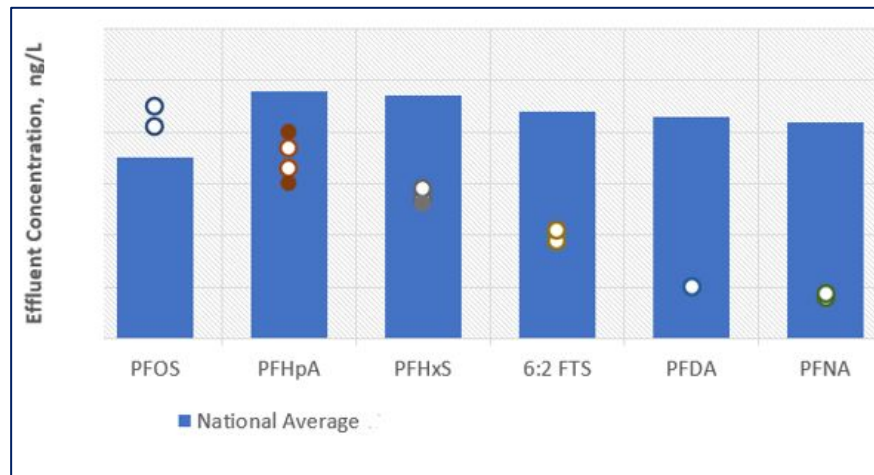
PFAS prevalence in Wastewater Treatment Plants

PFAS	All Data		No Stated Industrial Sources	
	No. of WWTPs	Detection Frequency	No. of WWTPs	Detection Frequency
PFOA	129	99%	112	99%
PFOS	129	94%	109	96%

National effluent PFAS regulatory "patchwork"



Place data within context of national averages and state guidelines/ regulations



Provide key takeaways and actions the City is undertaking

Key Takeaways

1. Salem drinking water remains safe.

- » There have been no detections of PFAS above the drinking water.
- » New federal PFAS regulations for drinking water rule and current data, Salem expects to meet modifications to the existing treatment system can accommodate future treatment for PFAS,

2. There are no federal or state level regulations but the City of Salem is taking a proactive approach and safeguard public health.

3. Sharing information:

- » City's website
- » This is an on-going conversation. Future council on-going efforts.

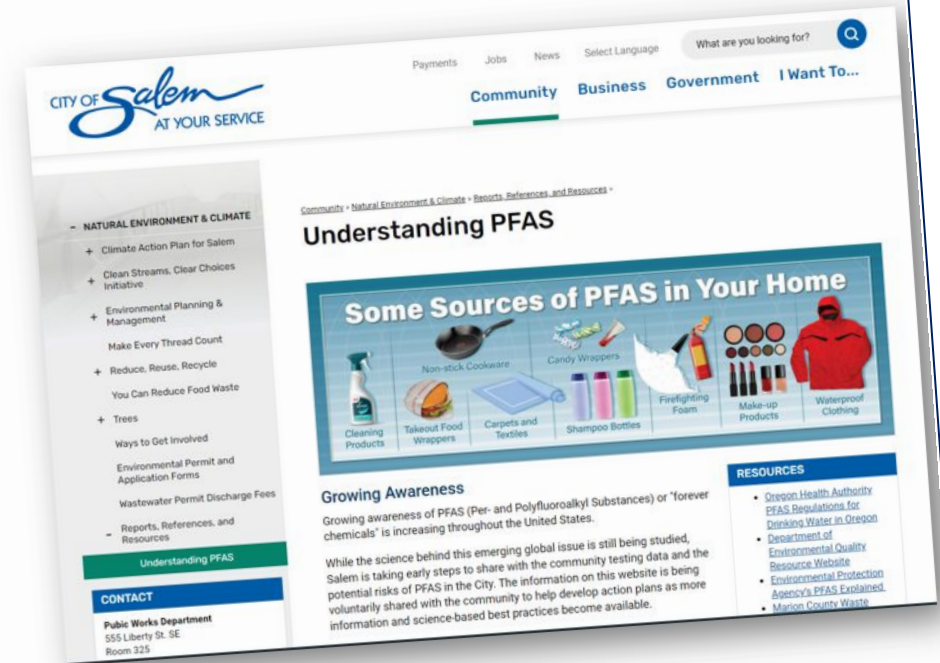
Salem's PFAS Communication Efforts are Ongoing.

• City's website:

www.cityofsalem.net/community/natural-environment-climate/reports-references-and-resources/understanding-pfas

• Helpful information including "What Can You Do"

• Draft communications strategy has been produced.



Securing Support of City Council

Salem City Council Chambers – Nov. 2023

“*This is new territory for us. And the level of expertise and understanding that we've developed over the last 10 months is extraordinary. We are preparing to make policy changes, and we are in a position to do that in a well-reasoned and scientific way. So thank you, Jude, for your expert guidance here. I think this has put us on a good path forward, and we are ready for whatever regulatory environment emerges both on the wastewater and the drinking water side.*”

– Keith Stahley, City of Salem Manager



Next Steps for Salem

- Continue execution of the PFAS Response Plan.
 - » Building partnerships and informing council.
 - » Exploring opportunities to treat leachate at the landfill and partner with solid waste collection organizations.

Actions	2023	2024	2025
Communications	Communications Strategy	Public and Partners Communications	
PFAS Monitoring	Initial PFAS Monitoring	PFAS Monitoring Plan PFAS Monitoring	
Source Management	Source Identification Plan	Identify Sources	Source Control
Capital Needs Planning	Treatment Feasibility Study	PFAS Master Plan	Technology Testing (if needed)
Partnerships	Establish Partnership		Shared Implementation
Advocacy	Join with other agencies to advocate for science-based decisions and funding.		

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Lessons Learned for Your Response Plan

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What's in a PFAS Response Plan?

1. PFAS Monitoring
(Near- and
long-term)

2. Mitigation &
Treatment Studies

3. Funding Impacts &
Affordability
Strategies

4. Partnership
Opportunities

5. Advocacy

6. Communications
Strategy

Linking Communications to PFAS Response Plans

- ✓ Salem, OR
- ✓ Rainbow Water, OR
- ✓ Airway Heights, WA
- ✓ Lakewood Water District, WA
- ✓ Vancouver, WA
- ✓ Camas, WA

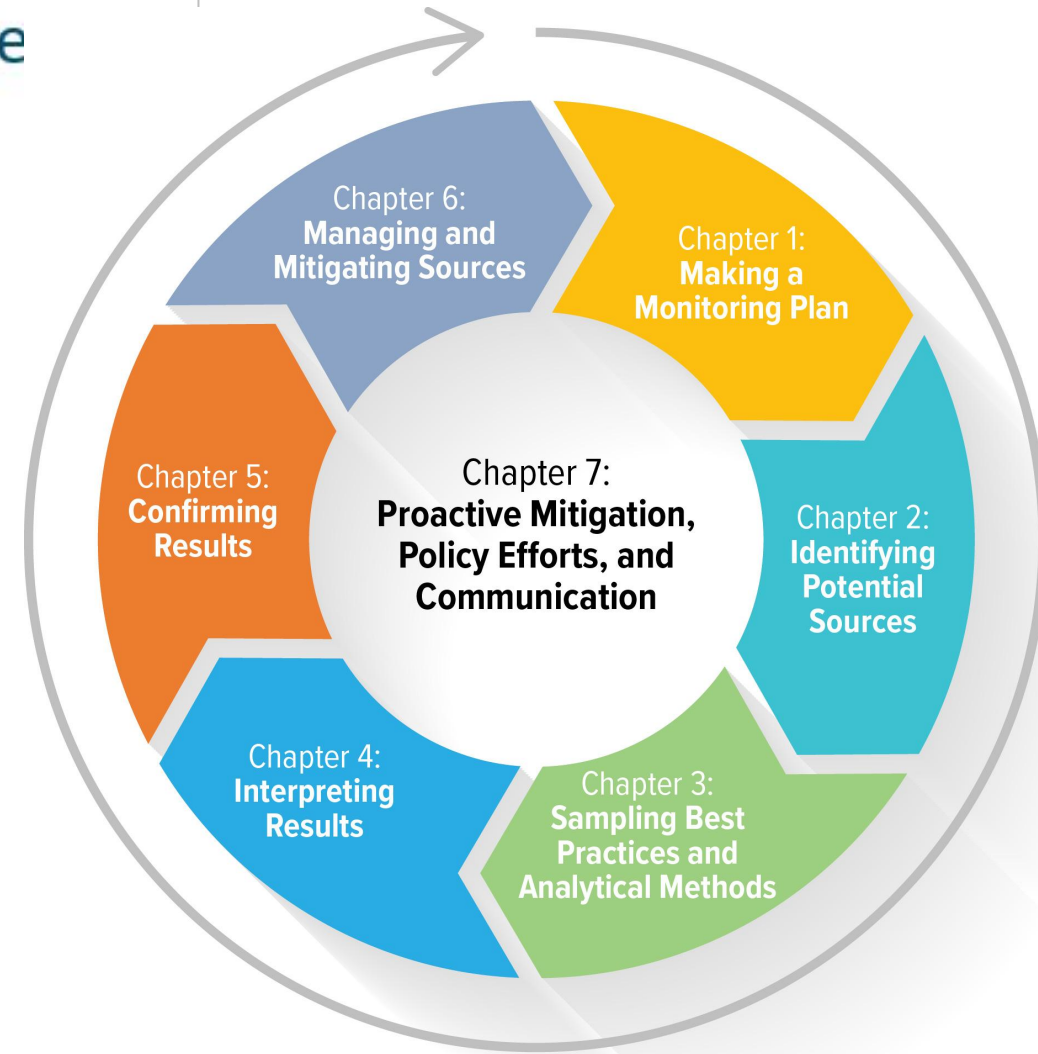
Guidebook for Preventing PFAS from Entering Drinking Water Supplies and Wastewater

1. PFAS Monitoring
(Near- and long-term)

2. Mitigation & Treatment Studies

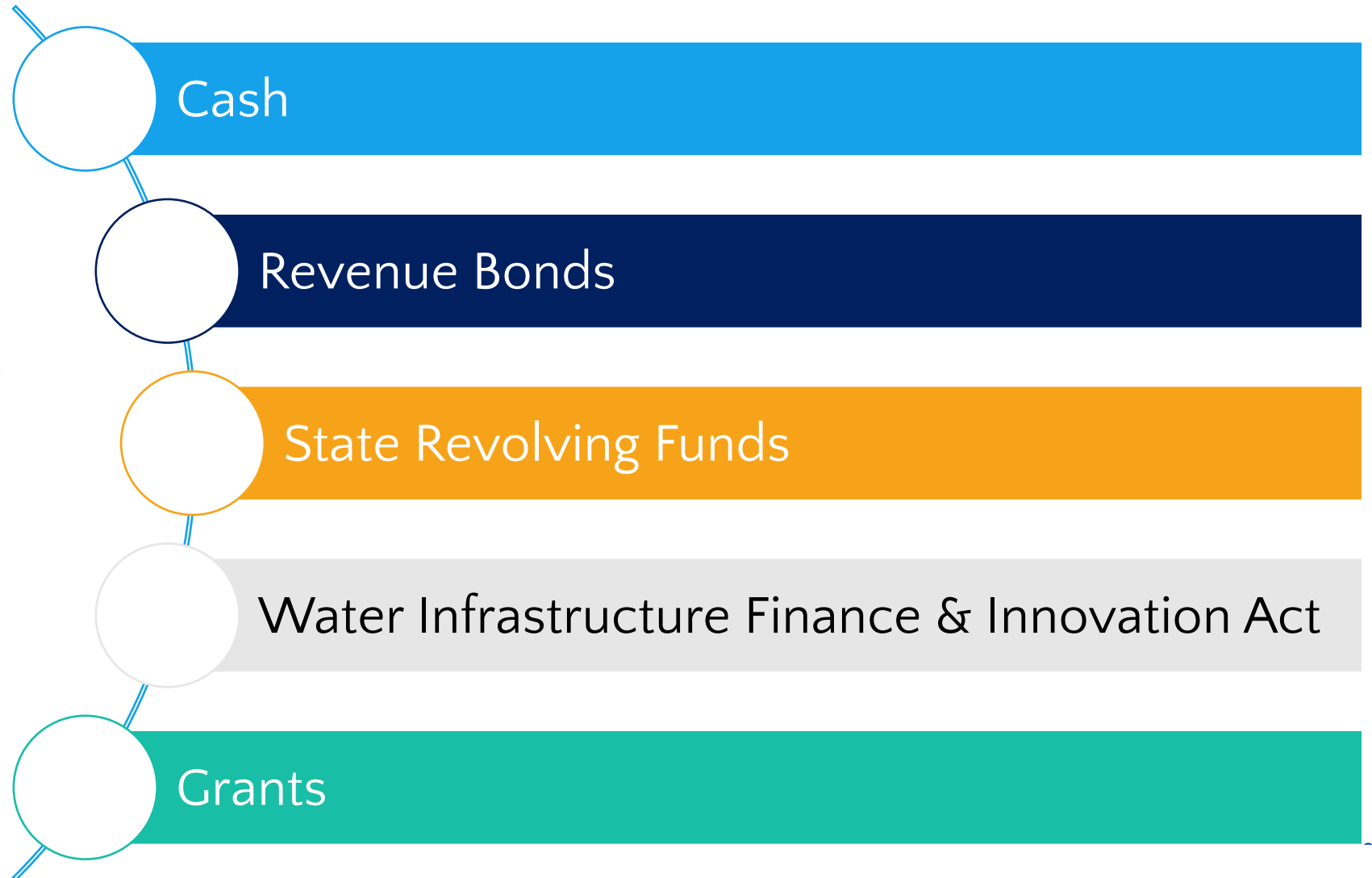
Prepared by:
Eva Steinle-Darling, PhD, PE
Giridhar Upadhyaya, PhD, PE
Kyle Thompson, PhD, PE
Carollo Engineers, Inc.
Dana Gonzalez, PhD
Hampton Roads Sanitation District
Jen Hooper, PE
Charles Schaefer, PhD
CDM Smith, Inc.
Eric Dickenson, PhD
Southern Nevada Water Authority
Paul Westerhoff, PhD
Arizona State University
Linda Lee, PhD
Purdue University

2023



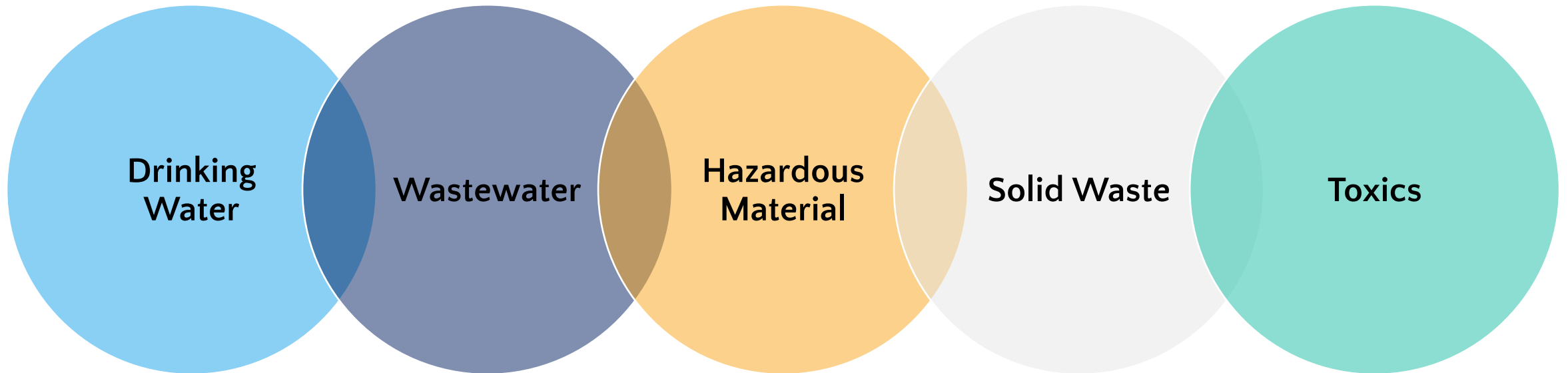
3. Funding Impacts & Affordability Strategies

The goal is to reduce impacts on ratepayers



4. Partnership Opportunities

5. Advocacy



PFAS is a community-wide problem

Partnerships are KEY!

- Groups around the country demanding action on biosolids
- Industry organizations can help provide a unified response.

MEMORANDUM



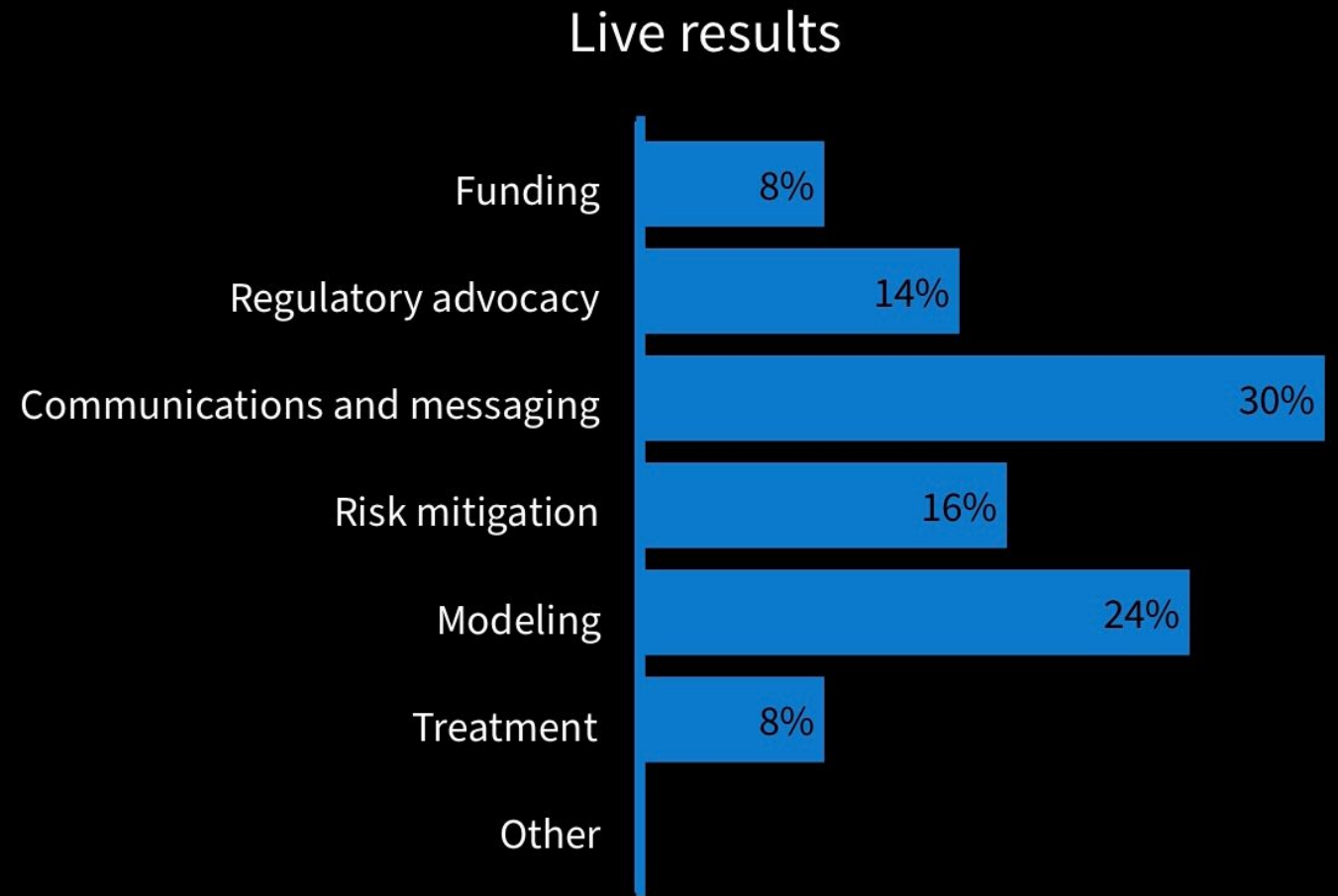
TO: ACWA members
FROM: Susie Smith, ACWA Special Projects Manager
DATE: July 3, 2024
SUBJECT: Response to Form Letter/Email Being Sent to City Councils Urging Biosolids Land Application and Compost Bans Due to PFAS

ISSUE:

This memo provides Oregon Association of Clean Water Agencies (ACWA) members with information that may be used to respond to public inquiries and advocacy organizations' urgings that biosolids composting and land application practices be banned due to claims of PFAS contamination. A "template" response is provided below for your agency to use as a resource document or adapt as you deem appropriate.



Which of these collaboration opportunities would you find valuable?



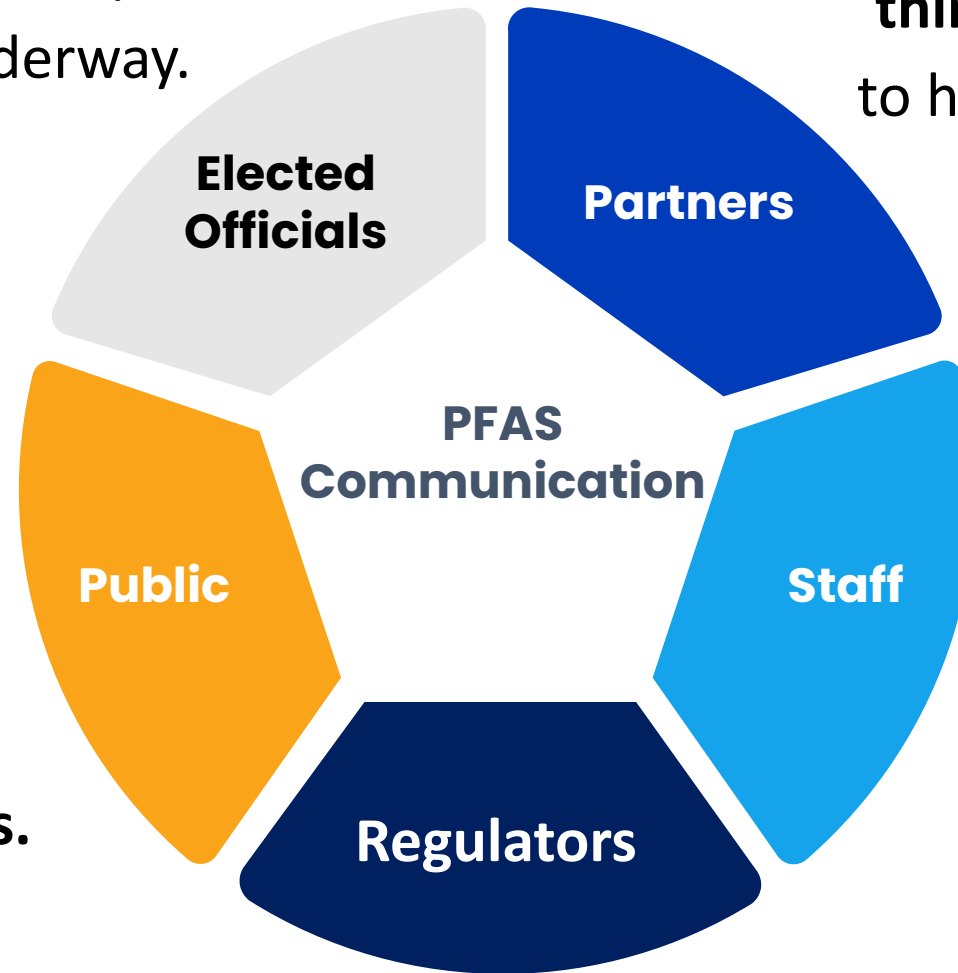
Which of these collaboration opportunities would you find valuable?

6. Communications Strategy

Keep elected officials informed on the topic and actions underway.

Engage credible third-party experts to help tell the story.

Actively share information with the public and listen to feedback.
Reach all audiences.



Prepare for public notice requirements.

Educate and train staff about PFAS and how to speak with customers.

Situation Assessment

- Communicating with the public about PFAS is inherently challenging—it's hard to understand.
- “Forever Chemicals” make sensational national news stories.
- The high cost of treatment will have impacts on affordability.
- Utilities and policymakers feel compelled to make critical decisions without all the information.

ENVIRONMENT, HEALTH, NEWS

Colorado has been spreading biosolids with “forever chemicals” on farms, records show. How dangerous is it?

Environmental groups say there is no safe level for toxic PFAS chemicals in drinking water or on farm land. State regulators say they are studying it.



The Seattle Times

4:08 AM MDT on Jun 20, 2022

More ‘forever chemicals’ found in WA drinking water as cleanup costs mount

Dec. 11, 2022 at 6:00 am | Updated Dec. 11, 2022 at 11:24 am



1 of 11 | “The frustration is ... the cost. We didn’t create this problem. But we have to deal with this,” said Marshall Meyer, engineering manager for Lakewood Water District. (Ellen M. Banner / The Seattle Times)

The Guardian

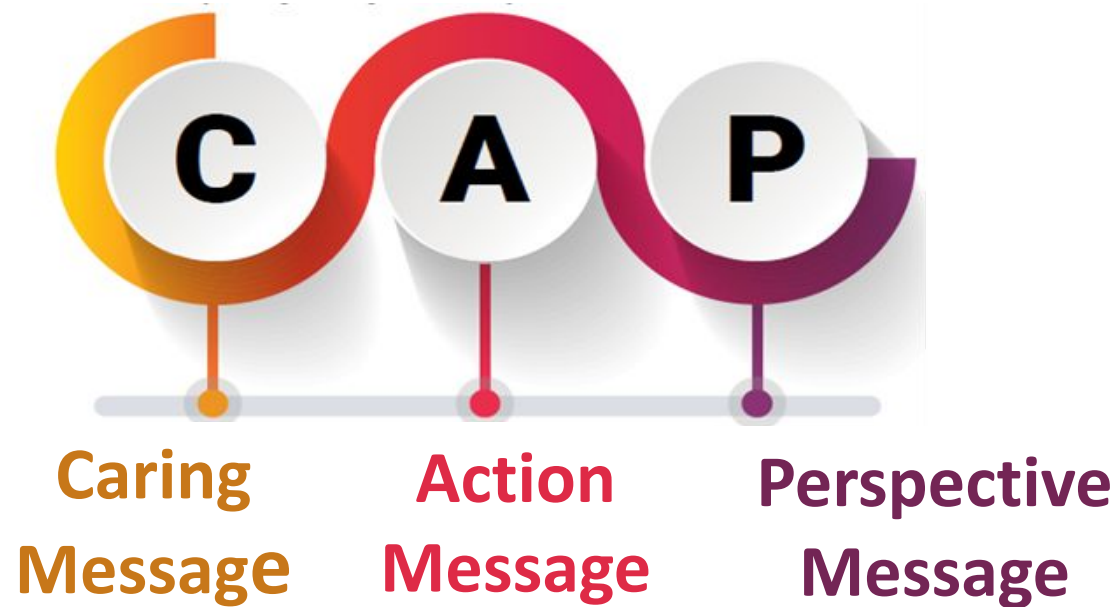
Over ‘forever chemicals’ as US spreads toxic sewage sludge

States allow states to continue spreading sludge even as toxic substance has ruined livelihoods and poisoned water



Key Communications Tips

1. Use proven methods to communicate risk



A Risk Communication Guide for Water Utilities (AWWA, 2019)

2. Share actions customers can take.

EPA's Meaningful and Achievable Steps You Can Take to Reduce Your Risk

3. Create engaging & informative materials

Lakewood Water District and PFAS: What You Need to Know

Lakewood Water District has detected PFAS in groundwater at certain locations in the District's water supply system. PFAS are a group of human-made chemicals that have the potential to adversely affect human health and the environment. The source of the PFAS in the groundwater is firefighting foam that was used at JBLM for decades.

WE ARE TAKING ACTION NOW TO:

- Protect Your Health**
Your water continues to be safe to drink. The water delivered to customers' taps meets all state and federal drinking water regulations to protect public health.
- Reduce Cost**
The District is seeking every avenue of funding to help pay for water quality protection projects necessary to respond to PFAS.
- Ensure a Reliable Water Future**
Future reliable water supply options are being evaluated by a team of engineers. The most cost-effective measures will be pursued.
- Find Long-Term Solutions**
District leadership is working closely with the State of Washington and others on new rules for water treatment and the long-term cleanup of PFAS sites.

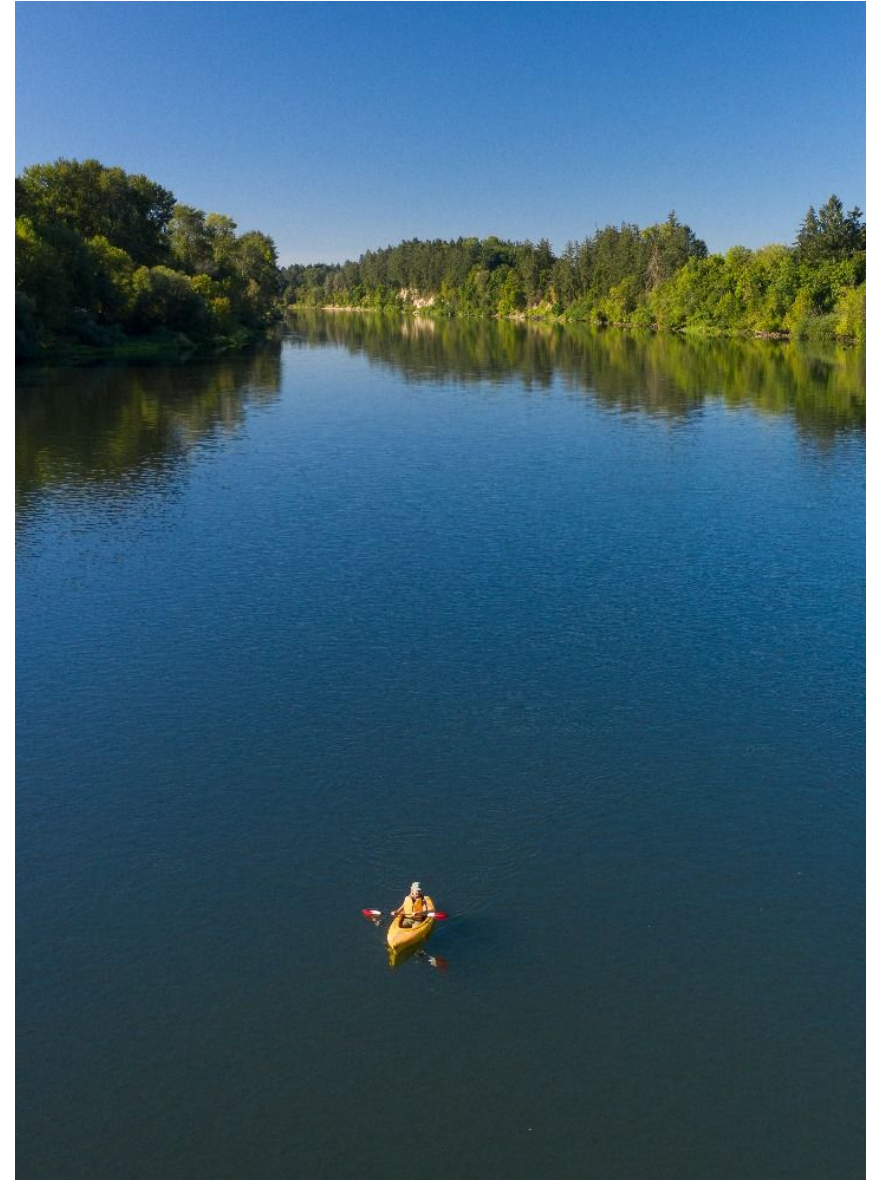
Learn more:
www.LakewoodWater.Org • (253) 588-4423

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Takeaways

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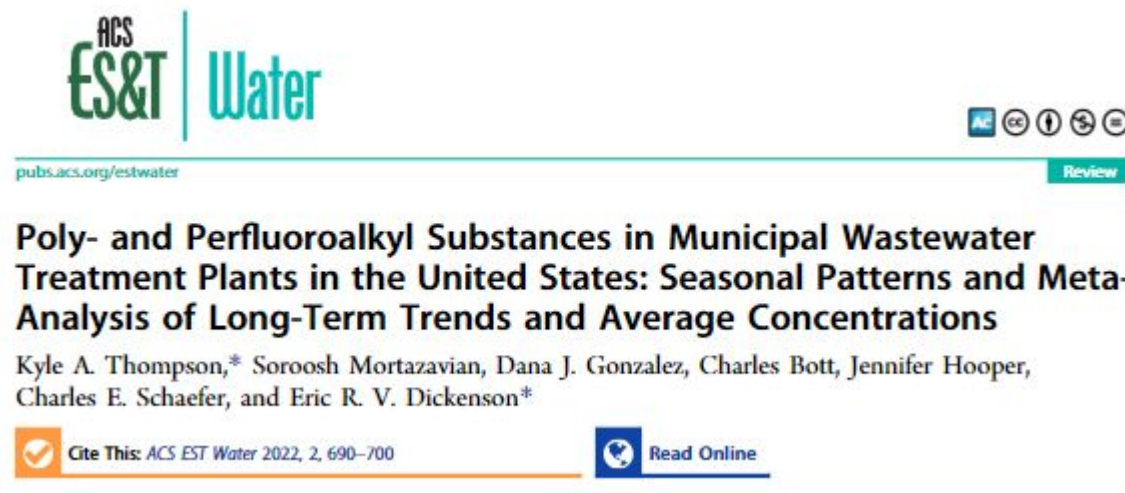
Willamette River



Thank you!



Extra slides



Study used for national averages



—
Communication
is KEY!

Today, people
have become
fearful about
water

Top 10 fears among Americans for 2022:

1. Corrupt government officials — **62% afraid**
2. People I love becoming seriously ill — **60.2% afraid**
3. Russia using nuclear weapons — **59.6% afraid**
4. People I love dying — **58.1% afraid**
5. The U.S. becoming involved in another world war — **56% afraid**
6. Pollution of drinking water — **54.5% afraid**
7. Not having enough money for the future — **53.7% afraid**
8. Economic/financial collapse — **53.7% afraid**
9. Pollution of oceans, rivers and lakes — **52.5% afraid**
10. Biological warfare — **51.5% afraid**