TUALATIN VALLEY
WATER DISTRICT

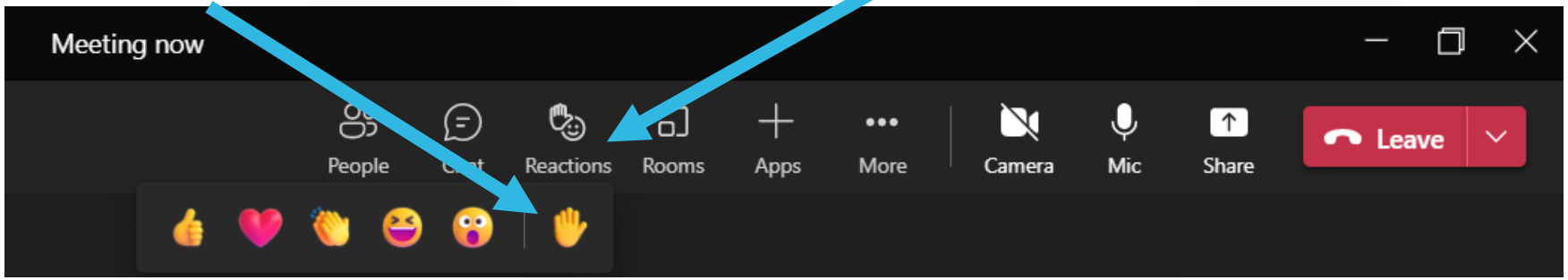
YOUR DRINKING WATER QUALITY

Talkin' Water

July 12, 2023

VIRTUAL EVENT GUIDELINES

- Sessions are recorded.
- Please make sure your microphone is muted.
- Raise your hand to ask questions by clicking on the Reactions button and then clicking on the hand.



- Once TVWD Staff call on you, unmute your microphone and ask your question. When finished, please mute your microphone again.
- TVWD operates in an inclusive and discrimination-free manner to serve all customers. Staff may exclude participants who disrupt events.

TUALATIN VALLEY WATER DISTRICT

TVWD WATER RESOURCES DIVISION MANAGER

Joel A. Cary

What does the Water Resources Division do?

- Water quality monitoring, testing, and compliance
- Cross connection control (backflow prevention)
- Water rights management
- Supply and operational planning support

What are today's goals?

- Provide you, our customers, with some meaningful context about TVWD water quality
- Answer your remaining water quality questions!

TUALATIN VALLEY WATER DISTRICT

TVWD’S CURRENT SOURCES

The District has a portfolio of high-quality sources

Portland Water Bureau (until 2026)

- Bull Run Watershed
- Columbia South Shore Well Field

Joint Water Commission (JWC)

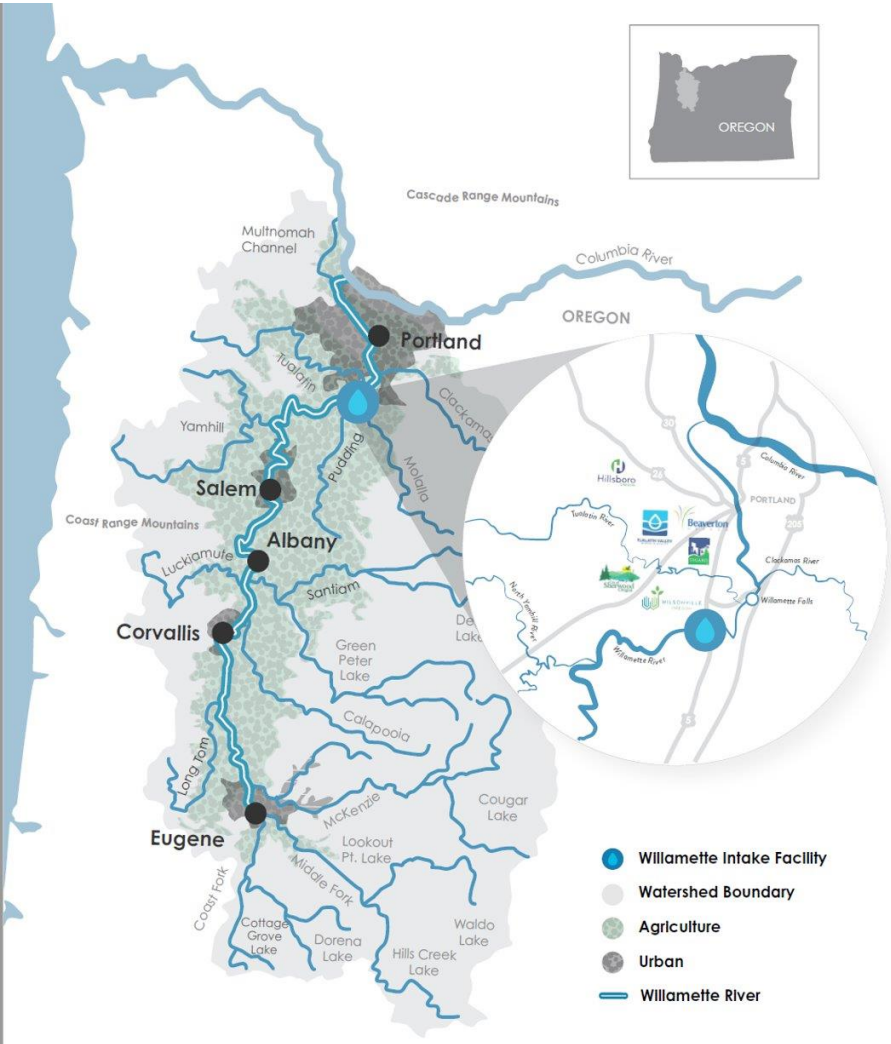
- Barney and Scoggins Reservoirs
- Upper Tualatin River

Aquifer Storage and Recovery (ASR)

- Treated drinking water recharged and stored underground for seasonal usage

TVWD'S FUTURE SOURCE

The Middle and Upper Willamette River



- TVWD and the Cities of Hillsboro and Beaverton have partnered to develop this new supply
- New, 60+ MGD multi-barrier treatment plant
- Developing a regional source water protection plan, expected to be adopted by spring 2024 (TVWD, Hillsboro, Wilsonville, Sherwood, Beaverton, Tigard)

TUALATIN VALLEY WATER DISTRICT

2022 TVWD WATER QUALITY DATA

Annual Consumer Confidence Report (CCR)

- The CCR summarizes thousands of samples collected by TVWD and our source water agency staff for the prior calendar year
- Available online in Spanish
- More detailed data are available (call or email wq@tvwd.org)

TUALATIN VALLEY WATER DISTRICT

Consumer Confidence Report

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (**1-800-426-4791**). All data listed is from samples collected in 2022 unless otherwise noted.

Parameter/Constituent	Units	MCL (TT)	MCLG	Portland Water Bureau* Detection Range MIN.	Portland Water Bureau* Detection Range MAX.	Joint Water Commission Detection Range MIN.	Joint Water Commission Detection Range MAX.	Aquifer Storage and Recovery (ASR) Detection Range MIN.	Aquifer Storage and Recovery (ASR) Detection Range MAX.	Typical Source of Contamination	Compliance Met
INORGANICS											
Fluoride[1]	mg/L	4	4	<0.025	0.110	ND	ND	0.48	0.65	A water additive that promotes strong teeth; erosion of natural deposits	✓
Barium	mg/L	2	2	0.00074	0.01070	0.0046	0.0055	0.0031	0.0035	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	✓
Nitrate *(as Nitrogen)*	mg/L	10	10	<0.01	0.14	0.05	0.32	0.209	0.396	Agricultural runoff; leaching from septic tanks, sewage; erosion of natural deposits	✓
Arsenic	µg/L	10	0	<0.50	1.05	ND	ND	ND	ND	Erosion of natural deposits	✓
Lead *(from source water)*	µg/L	--	0	ND	0.15	ND	ND	ND	ND	Erosion of natural deposits	✓
Copper *(from source water)*	mg/L	--	1.3	<0.00050	<0.00065	ND	ND	ND	ND	Erosion of natural deposits	✓
ADDITIONAL TESTING											
Turbidity - Unfiltered	NTU	5	--	0.25	4.74	--	--	--	--	Soil runoff; erosion of natural deposits	✓
Turbidity - Filtered	NTU	0.3	--	--	--	0.02	0.17	--	--	Soil runoff; erosion of natural deposits	✓
Sodium	mg/L	--	--	3.4	15	9.4	14	10.8	11.7	Erosion of natural deposits	✓
Manganese	mg/L	50	--	0.0012	0.0318	ND	ND	ND	0.00238	Erosion of natural deposits	✓
RADIOLOGICAL											
Radon[2]	pCi/L	300	0	<12	333	--	--	169	393	Naturally occuring radioactive gas	✓
MICROBIOLOGICAL											
Fecal Coliform Bacteria *(% >20 colonies/100mL in 6 months)*	Present/Absent	TT	10%	ND	0.6%	NA	NA	ND	ND	Human and animal fecal waste	✓
Cryptosporidium (oocysts/L)[3]	Present/Absent	TT	0	ND	0.08	NA	NA	--	--	Human and animal fecal waste	✓
Giardia (cysts/L)[4]	Present/Absent	TT	--	ND	0.04	NA	NA	--	--	Human and animal fecal waste	✓

Portland Water Bureau
Last fiscal year, TVWD purchased about 5.61 billion gallons of water from the City of Portland. Portland's primary source is water from the Bull Run watershed in the Mt. Hood National Forest. Portland also uses pumped groundwater from the Columbia South Shore Well Field next to the Columbia River to augment the Bull Run supply when needed. For more information about the Portland Water Bureau, visit **portlandonline.com/water**.

Joint Water Commission
Last fiscal year, about 1.92 billion gallons of water came from the Joint Water Commission (JWC), which is jointly owned by the District and the cities of Beaverton, Hillsboro and Forest Grove. JWC water sources are Hagg Lake and Barney Reservoir, as well as the seasonal flow of the Tualatin River. Water from these sources is treated at the JWC water treatment plant located near Forest Grove. For more information about the JWC, visit **jwcwater.org**.

Aquifer Storage and Recovery (ASR)
During the winter when water is plentiful, TVWD stores treated drinking water underground in the aquifer surrounding the Grabhorn well on Cooper Mountain. During the hot summer months, the stored water is pumped from the aquifer to help meet peak water demands. The Grabhorn ASR well is capable of storing in excess of 300 million gallons of treated water. For more information about TVWD's ASR use, visit **tvwd.org/sources**.

TUALATIN VALLEY WATER DISTRICT

2022 TVWD WATER QUALITY DATA

Annual Consumer Confidence Report (CCR)

Bottom line... your water is safe to drink.

TUALATIN VALLEY WATER DISTRICT

Consumer Confidence Report

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Arsenic	µg/L	10	0	<0.50	1.05	ND	ND	ND	ND	Erosion of natural depostis	✓
Lead *(from source water)*	µg/L	--	0	ND	0.15	ND	ND	ND	ND	Erosion of natural deposits	✓
Copper *(from source water)*	mg/L	--	1.3	<0.00050	<0.00065	ND	ND	ND	ND	Erosion of natural depostis	✓
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Radon[2]	pCi/L	300	0	<12	333	--	--	169	393	Naturally occuring radioactive gas	✓
MICROBIOLOGICAL											
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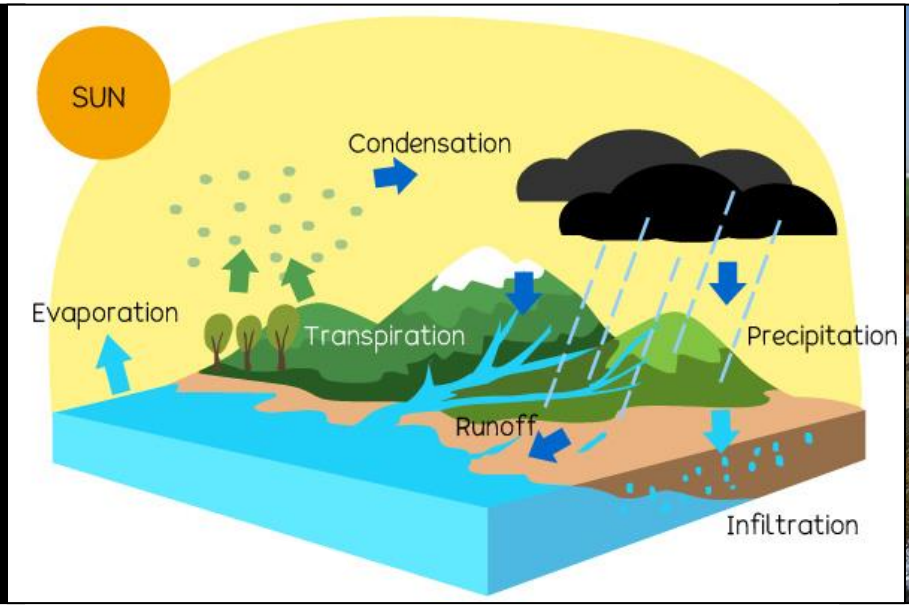
TUALATIN VALLEY WATER DISTRICT

2022 WATER QUALITY: SOURCE DATA

Naturally occurring lead (Pb)



Nitrate from agricultural sources or natural erosion

Parameter/Constituent	Units	MCL *(TT)*	MCLG	Portland Water Bureau* *Detection Range*		Joint Water Commission *Detection Range*		Aquifer Storage and Recovery (ASR) *Detection Range*		Typical Source of Contamination	Compliance Met
INORGANICS				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.		
Fluoride[1]	mg/L	4	4	<0.025	0.110	ND	ND	0.48	0.65	A water additive that promotes strong teeth; erosion of natural deposits	
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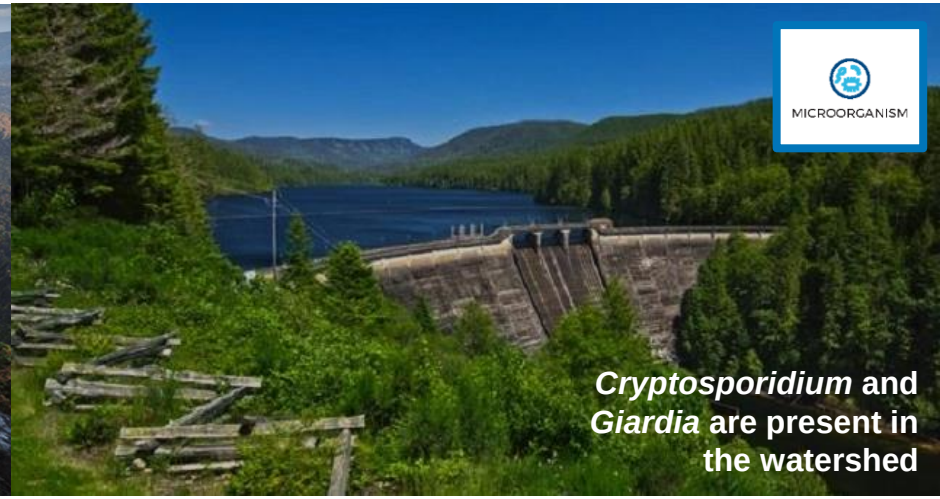
Lead *(from source water)*	µg/L	--	0	ND	0.15	ND	ND	ND	ND	Erosion of natural deposits	
Copper *(from source water)*	mg/L	--	1.3	<0.00050	<0.00065	ND	ND	ND	ND	Erosion of natural depostis	

2022 WATER QUALITY: SOURCE DATA (CONT.)



Parameter/Constituent	Units	MCL *(TT)*	MCLG	Portland Water Bureau* *Detection Range*		Joint Water Commission *Detection Range*		Aquifer Storage and Recovery (ASR) *Detection Range*		Typical Source of Contamination	Compliance Met
ADDITIONAL TESTING											
Turbidity - Unfiltered	NTU	**5**	**--**	**0.25**	**4.74**	**--**	**--**	**--**	**--**	Soil runoff; erosion of natural deposits	✓
Turbidity - Filtered	NTU	**0.3**	**--**	**--**	**--**	**0.02**	**0.17**	**--**	**--**	Soil runoff; erosion of natural deposits	✓
Sodium	mg/L	**--**	**--**	**3.4**	**15**	**9.4**	**14**	**10.8**	**11.7**	Erosion of natural deposits	✓
Manganese	mg/L	**50**	**--**	**0.0012**	**0.0318**	**ND**	**ND**	**ND**	**0.00238**	Erosion of natural deposits	✓
RADIOLOGICAL											
Radon[2]	pCi/L	**300**	**0**	**<12**	**333**	**--**	**--**	**169**	**393**	Naturally occuring radioactive gas	✓
MICROBIOLOGICAL											
Fecal Coliform Bacteria *(% >20 colonies/100mL in 6 months)*	Present/Absent	**TT**	**10%**	**ND**	**0.6%**	**NA**	**NA**	**ND**	**ND**	Human and animal fecal waste	✓
Cryptosporidium (oocysts/L)[3]	Present/Absent	**TT**	**0**	**ND**	**0.08**	**NA**	**NA**	**--**	**--**	Human and animal fecal waste	✓
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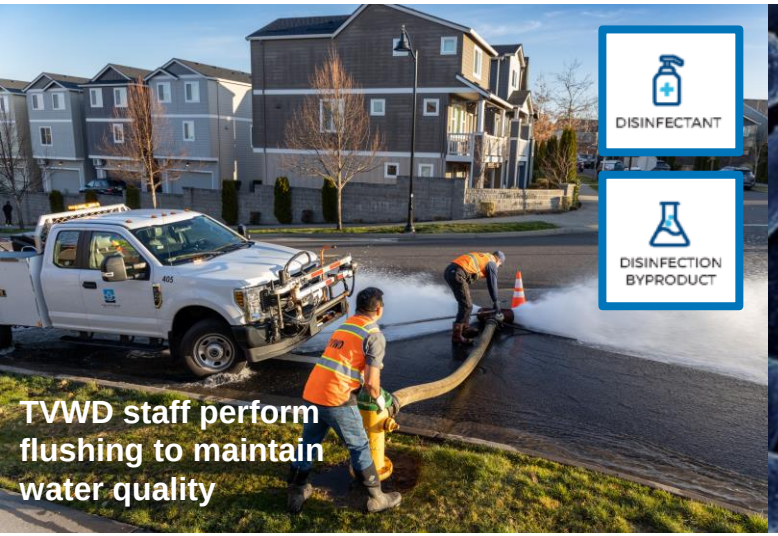
TUALATIN VALLEY WATER DISTRICT

2022 WATER QUALITY: TVWD SYSTEM



TVWD staff perform flushing to maintain water quality

Escherichia coli (*E. coli*)

Microbiological sample results are available 18-hours After lab 'set-up'

CONTAMINANTS TESTED IN TVWD DISTRIBUTION SYSTEM

Parameter/Constituent	Units	MCL	MCLG	LRAA (RAA)	Single Site Result (Range)	Typical Source of Contamination	Compliance Met
DISINFECTION BY-PRODUCTS							
Total Trihalomethanes (THMs)[5]	ppb	**80**	--	**21 - 36**	**17.0 - 42.6**	By-product of drinking water disinfection	
Haloacetic Acids (HAAs)[5]	ppb	**60**	--	**19 - 31**	**11.0 - 32.2**	By-product of drinking water disinfection	
Free Chlorine and Chlormaine	ppm	**4**	**4**	**1.3**	**0.02 - 2.38**	Water additive used to control microbes	

Parameter/Constituent	Units	MCL (AL)	Results	Typical Source of Contamination	Compliance Met
MICROBIOLOGICAL					
Total Coliform Bacteria % Positive	%	+	0 samples tested positive for total coliform bacteria in 2022	Naturally present in the environment	
Fecal Coliform Bacteria % Positive	%	+	0 samples tested positive for total coliform bacteria in 2022	Human and animal fecal waste	

TUALATIN VALLEY WATER DISTRICT

2022 WATER QUALITY: TVWD SYSTEM (CONT.)

Copper plumbing with lead solder

Lead and copper are sampled within customer homes

CONTAMINANTS TESTED IN TVWD DISTRIBUTION SYSTEM

Parameter/Constituent	Units	MCL (AL)	MCLG	90th%[w]	Homes Exceeding Action Level	Typical Source of Contamination	Compliance Met
LEAD AND COPPER *(results from high-risk homes)*[6]							
Lead - Customer Taps[7]	ppb	**15**	**0**	**13**	**8 of 107 homes sampled**	Corrosion of household and commercial plumbing systems.	
Copper - Customer Taps[7]	ppm	**1.30**	**1.30**	**0.12**	**0 of 107 homes sampled**	Corrosion of household and commercial plumbing systems.	

TUALATIN VALLEY WATER DISTRICT

What's on the horizon for TVWD water quality?

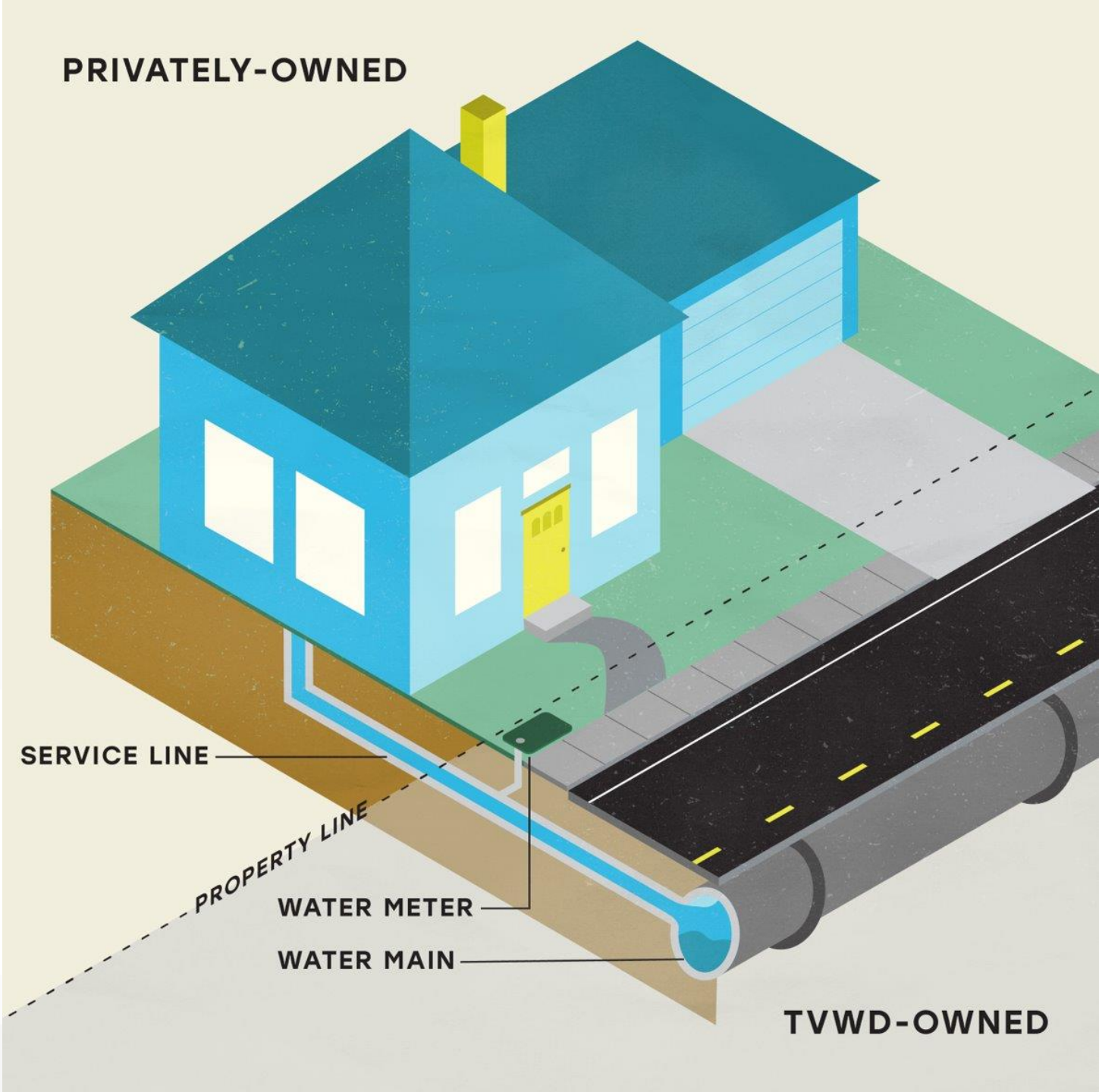
Projects, efforts, and key information for customer awareness

TUALATIN VALLEY WATER DISTRICT

TVWD'S SERVICE LINE PROJECT

Our efforts to prove we have no lead service lines

- TVWD has no known lead service lines
- Combining physical assessments with statistical modeling
- Nearly 400 randomly selected services will be evaluated
- Public health protection is our job even if we think we're at low risk



TIME

Drinking Water From Nearly Half of U.S. Faucets Likely Contains 'Forever Chemicals' Study Warns

Study says drinking water from nearly half of U.S. faucets contains potentially harmful chemicals.
By JOHN FLESHER / AP
July 6, 2023 9:38 AM EDT

(TRAVERSE CITY, Mich.) — Drinking water from nearly half of U.S. faucets likely contains "forever chemicals" that may cause cancer and other health problems, according to a government study released Wednesday.

The synthetic compounds known collectively as PFAS are contaminating drinking water to varying extents in large cities and small towns — and in private wells and public systems, the U.S. Geological Survey said.

Researchers described the study as the first nationwide effort to test for PFAS in tap water from private sources in addition to regulated ones. It builds on previous scientific findings that the chemicals are widespread, showing up in consumer products as diverse as nonstick pans, food packaging and water-resistant clothing and making their way into water supplies.

PFAS IN THE NEWS

Per- and polyfluoroalkyl substances (PFAS)

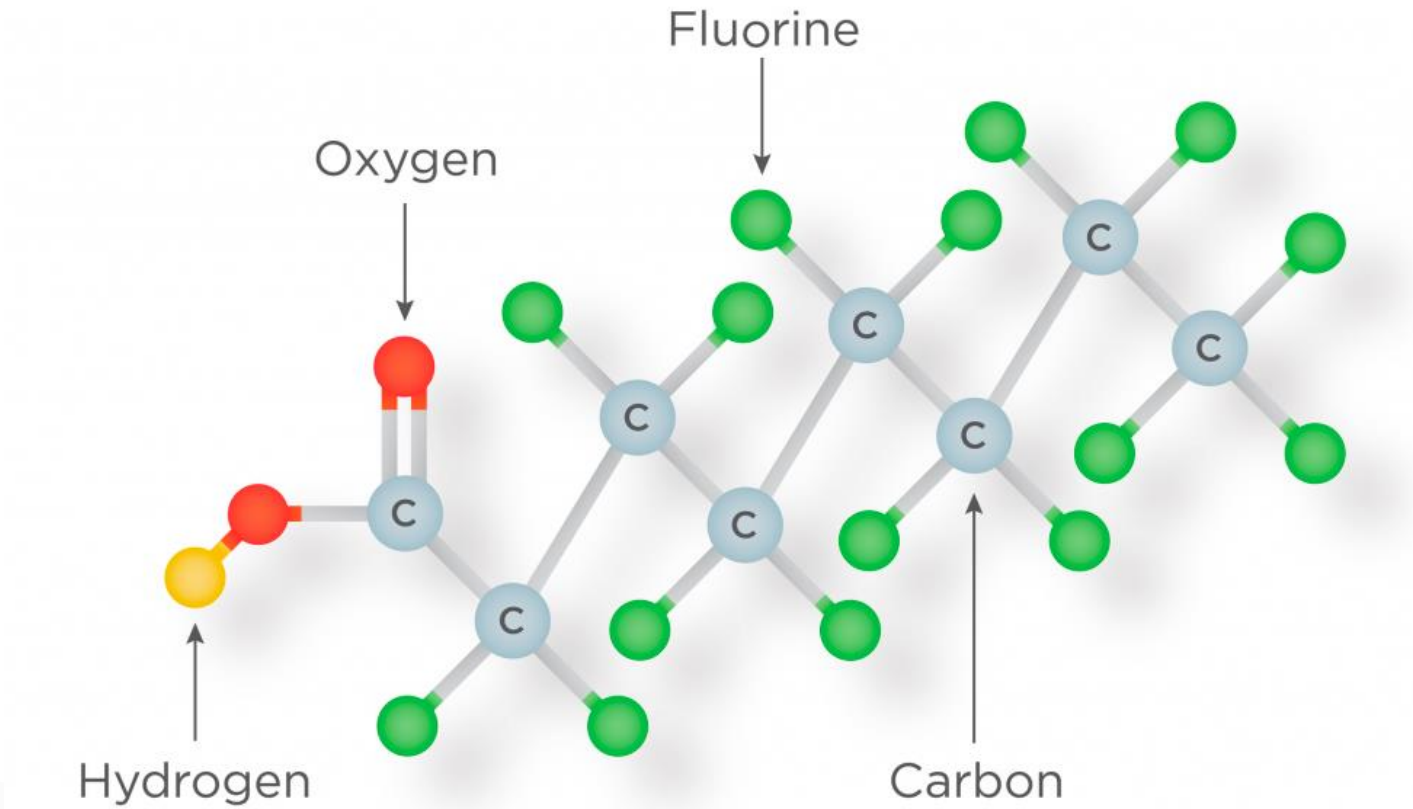
- Recent USGS study estimated that nearly half of our water sources (public and private) could contain these compounds
- We're just as concerned as you are, and we're committed to ensuring that our customers receive safe, high quality drinking water

TUALATIN VALLEY WATER DISTRICT

PFAS: WHERE ARE THEY?

TVWD'S SECOND ROUND OF PFAS SAMPLING

Testing under EPA's Unregulated Contaminant Monitoring Rule



The carbon-fluorine (C-F) bond is one of the strongest known bonds in chemistry. As a result, fluorinated hydrocarbons are very difficult to 'break.'

- This sampling is a national and regional effort
  - From 2013 to 2015, no detectable levels of 6 per- and polyfluoroalkyl substances (PFAS) were found in any finished drinking water samples from our sources
- TVWD and our regional partners are testing for 29 PFAS compounds (and lithium) during a 12-month period starting this month
- Reporting limits are lower this time, e.g., 2-3 ppt
- Results will be posted online as they're available (August timeframe)

TUALATIN VALLEY WATER DISTRICT

MICROPLASTICS

What we know from the research in this emerging area of study

- Occurrence varies widely with sampling approaches and techniques (e.g., surface tension vs. water column)
- Treatment is effective but based on particulate size and exact process
- California in July 2021 adopted test methodology and monitoring requirements
  - Two years of source water testing and two years of treated drinking water testing
  - Why mention this? This will inform our planning and California is leading the way for any future rulemaking

YOUR TURN! ANY QUESTIONS?

Joel Cary

Water Resources Division Manager

TUALATIN VALLEY
WATER DISTRICT

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Joel.cary@tvwd.org

Tvwd.org/TalkinWater