Providing safe, reliable, affordable, and sustainable service.

Covington 212
2023 Water Quality Report

We are pleased to present your 2023 Annual Water Quality Report.

This report is designed to update you about the quality of water and services we deliver to you every day, but most importantly, this report shows your drinking water source meets all primary state and federal regulations.

On page 3, you'll find the most recent water quality results through the monitoring period ending December 31, 2023.

If you would like to receive more information about current water quality issues, make comments, or ask questions, please contact our Planning and Compliance Department at PUDPlanning@thurstonpud.org or call our offices at (360) 357-8783 option 3 between 8 a.m. & 4 p.m. Monday - Friday.

How To Contact Us ....

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Conservation Saving Water can Be Simple

Drought 2024 - Low snowpack and forecasts for a dry and warm spring and summer prompted Ecology to declare a drought emergency for most of Washington State, which include all counties Thurston PUD serves. Thurston PUD will take extra measure to monitor well water levels on vulnerable sources and hope that our customers can monitor their usage throughout the summer and find ways to use the water efficiently.

Simple Daily Practices to Conserve Water

- Check for Leaks: Regularly check for leaky faucets, toilets, pipes and fixtures. A small drip from a leaking faucet can waste 20 gallons of water per day. Keep an eye on your water meter. If it's running when all water sources are turned off, there may be a leak.
- Avoid Running Water Continuously: While cleaning vegetables or doing dishes, fill one side of the sink with soapy water and the other side with rinse water instead of letting the water run continuously.
- Water Plants Wisely: Water plants early in the morning or late in the evening when the temperatures are cooler to minimize evaporation. Implement a drip irrigation system for efficient watering.
- Irrigation: For irrigation Best Management Practices, check out our website at www.ThurstonPUD.org.

Get Involved

Commission meetings are held the second and fourth Tuesday of every month.

The meetings start at 5:00 p.m. and are open to the public.

Check out our website at *www.thurstonpud.org*.

Water Use Efficiency Annual Report

Thurston PUD is required to send you a Water Use Efficiency Report on an annual basis. To comply with this State law, Thurston PUD approved a new conservation goal in October 2020 for your water system. The goal is as follows:

REDUCE AND/OR MAINTAIN THE ANNUAL AVERAGE DEMAND PER CONNECTION, FOR ALL GROUP A SYSTEMS, TO NO MORE THAN 250 GALLONS PER DAY.

The Covington water system is fully metered and the total water produced for 2023 was 2,338,697 gallons. The system had a 2 gallon per minute leak loss for the year. In 2023, the average household used 221 gallons per day meeting the PUD's current conservation goal.

A copy of the report filed with the State is available on our website. To receive a copy by mail, please call our office at (360) 357-8783.

Lead and Drinking Water *What you need to know*

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Thurston PUD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

To help reduce potential exposure to lead, for any drinking water tap that has not been used for 6 hours or more, flush water through the tap until the water is noticeably colder before using for drinking or cooking. You can use the flushed water for watering plants, washing dishes, or general cleaning. Only use water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water is available form EPA's Safe Drinking Water Hotline at 1-800-426-4791 or online at http://www.epa.gov/safewater/lead.

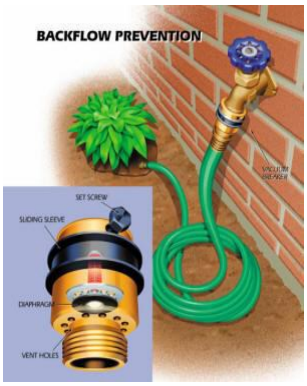
CROSS CONNECTION CONTROL *Protecting the Water You Drink from Backflow*

Definition of Backflow: The flow of water or other liquids, mixtures, or substances into the distribution pipes of a potable water supply (your local water system) from any source or sources other than the intended source. Back siphonage is the flowing back of used, contaminated, or polluted water from a plumbing fixture, irrigation system or vessel into a potable water supply due to a negative pressure in the supply piping.

Examples of Contamination from Cross-Connections:

- In 1993, an Oregon homeowner installed an irrigation system using water pumped from a decorative pond in an area near an old septic drain field. When the pond's pump failed, the homeowner connected a hose from the home's drinking water system to the irrigation piping. When the pump was brought back online, **it forced pond water through the hose connection, through the home, and into the city's potable water system.**
- In 1982, a Michigan resident was spraying his garden with pesticides using a common hose and sprayer attachment. While he was applying the pesticide, the public water system needed to shut down temporarily. The homeowner noticed a drop-in pressure and within a few moments, the pesticide disappeared from the container: **Back siphonage had drawn the pesticide into the hose, through the house plumbing, and into the public drinking water system.**

To Prevent Cross-Connections and Backflow Incidents: Install atmospheric vacuum breakers (AVB) on all outside hose bibs. You can get AVB's at any hardware store with a cost around $5.00 apiece, see example below.



Two ways to help keep your water safe from cross-connections:

1. Fill out a new cross-connection survey form (www.thurstonpud.com) every time you add anything to your system.
2. Send in your required annual test results for any backflow device you have installed on your irrigation system.

ANNUAL WATER QUALITY REPORT: Covington 212 - ID# 02050D

The water source for the Covington Water system is City of Lacey through a master meter. https://cityoflacey.org/Water-quality/

Treatment	*Description*
City of Lacey Chlorination	Treatment consists of a chemical feed pump injecting sodium hypochlorite (chlorine) to protect against possible bacterial contamination.

Water Quality Data

The table below lists all the drinking water contaminants that we detected during the 2023 calendar year. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

We test for Primary and Secondary Contaminants both regulated and unregulated, as required by the EPA and the State Department of Health. The regulated and unregulated analysis (contaminants) tests are commonly referred to as Inorganic Chemical (IOC), Volatile Organic Chemical (VOC) and Synthetic Organic Chemical (SOC) tests.

Required Testing (last testing date):

Monthly Bacteriological
Annual Nitrate – See City of Lacey Annual Report
Inorganic Contaminants – See City of Lacey Annual Report
Volatile Organic Contaminants – See City of Lacey Annual Report
Disinfection Byproducts – 2021
Lead & Copper – 2023

PRIMARY CONTAMINANTS

Microbiological	***MCLG***	***MCL***	***Your Water***	***Compliant(Y/N)***	***Typical Sources***
Total Coliform Bacteria	N/A	TT	0	Y	Naturally present in the environment.
Disinfectants Disinfection Byproducts	***MCLG***	***MCL***	***Your Water***	***Compliant(Y/N)***	***Typical Sources***
Total Trihalomethanes (TTHM) (ppb)	N/A	80	5.89	Y	Byproduct of drinking water disinfection
Haloacetic Acids (HAA5) (ppb)	N/A	60	2.32	Y	Byproduct of drinking water disinfection
Lead and Copper Taken at Customer Taps	***AL***	***No. of Homes Sampled***	***90th Percentile Value***	***No. of Homes Exceeding AL***	***Typical Sources***
Lead (ppb)	15	5	11.5	1	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	1.3	5	0.968	0	Corrosion of household plumbing systems; erosion of natural deposits

Terms and Abbreviations Used:

ppm - parts per million
ppb - parts per billion
N/A - Not Applicable
ND - None Detected
TT - Treatment Technique

Contaminant: A substance that impairs the quality of potable water and may create a hazard to public health.

MCLG (Maximum Contaminant Level Goal): the level of a contaminant in drinking water below which there is no know or expected risk to health. MCLGs allow for a margin of safety.

MCL (Maximum Contaminant Level): the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

AL (Action Level): the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

2023 Water Quality Test Results

Contaminant	Highest Level Allowed (MCL)	Goal Not to Exceed (MCLG)	Highest Level Detected	Lowest Level Detected	Date of Highest Level Detected	Typical Source of Contaminant
Primary Standards Regulated by EPA for Protecting Public Health						
Arsenic	10 ppb	0	2 ppb	<1 ppb	7/13/2021	Erosion of natural deposits
Fluoride	4 ppm[1]	4 ppm	<0.2 ppm	<0.2 ppm	5/18/2021	Geology, natural weathering. Fluoride is not added to water
Lead	15 ppb	0	8 ppb	< 1 ppb	8/10/2021	Geology, brass fittings
Nitrate	10 ppm	10 ppm	4.4 ppm	<1 ppm	1/10/2023	Septic systems, fertilizer, animal waste
Ethylbenzene	700 ppb	700 ppb	0.52 ppb	0.52 ppb	8/30/2023	Discharge from petroleum refineries, paint from new reservoir
Xylenes	10,000 ppb	10,000 ppb	1.74 ppb	1.74 ppb	8/30/2023	Discharge from petroleum refineries and chemical factories, paint from new reservoir
Radium 228	5 pCi/L	0 pCi/L	1 pCi/L	< 1 pCi/L	7/19/2022	geology, natural weathering
Total Coliform Bacteria (% monthly samples testing positive)	5%	0%	0%	0%	9/28/2022	Naturally present in the environment
Free Chlorine Residual	4 ppm	4 ppm	0.89 ppm	0.30 ppm	5/1/2023	Added as a disinfectant to the water system
Total Trihalomethanes[2]	80 ppb	NA	9.7 ppb	<1 ppb	8/23/2023	Reaction of chlorine with naturally occurring organic matter
Total Haloacetic acids[3]	60 ppb	NA	<1 ppb	<1 ppb	N/A	Reaction of chlorine with naturally occurring organic matter
Regulated Per- and Polyfluoroalkyl Substances (PFAS)[4]						
PFOA	4 ppt	0 ppt	2.5 ppt	<0.075 ppt	12/1/2023	Run-off or leaching from firefighting foam, industrial discharge, and landfills; wastewater treatment plants
PFOS	4 ppt	0 ppt	2.6 ppt	<0.098 ppt	12/1/2023	
PFNA	10 ppt	10 ppt	0.14 ppt	<0.087 ppt	12/1/2023	
PFHxS	10 ppt	10 ppt	1.6 ppt	<0.061 ppt	12/1/2023	
Unregulated PFAS						
PFBS	345 ppt (SAL)		2.4 ppt	<0.11 ppt	12/1/2023	Run-off or leaching from firefighting foam, industrial discharge, and landfills; wastewater treatment plants
PFPeS	unregulated		0.34 ppt	<0.05 ppt	12/1/2023	
PFBA	unregulated		0.81 ppt	<0.057 ppt	12/1/2023	
PFPeA	unregulated		1.3 ppt	<0.10 ppt	12/1/2023	
PFHxA	unregulated		1.9 ppt	<0.11 ppt	12/1/2023	
PFHpA	unregulated		0.71 ppt	<0.052 ppt	12/1/2023	
Secondary Standards Regulated by EPA for Aesthetics						
Chloride	250 ppm		18 ppm	1 ppm	8/10/2021	Geology, natural weathering
Copper	1300 ppb	1300 ppb	43 ppb	<20 ppb	8/10/2021	Geology, natural weathering
Iron	300 ppb		370 ppb	<100 ppb	9/13/2021	Geology, natural weathering
Manganese	50 ppb		61 ppb	<10 ppb	7/14/2021	Geology, natural weathering
Sulfate	250 ppm		14 ppm	2 ppm	7/13/2021	Geology, natural weathering
Conductivity	700 µS/cm		282 µS/cm	105 µS/cm	8/10/2021	Geology, natural weathering
Regulated by the State at the Consumer's Tap						
Contaminant	State Action Level (SAL)	Goal Not to Exceed (MCLG)	90% percentile	# Samples Over State Action Level	Date of Highest Level Detected	Typical Source of Contaminant
Copper	1300 ppb	1300 ppb	749 ppb	0 samples	7/19/2023	Corrosion of household plumbing or erosion of natural deposits
Lead	15 ppb	0 ppb	6.4 ppb	0 samples	7/19/2023	Corrosion of household plumbing or erosion of natural deposits
Unregulated Contaminants - sampled as required by EPA						
	State Action Level	Goal Not to Exceed (MCLG)	Highest Level Detected	Lowest Level Detected	Date of Highest Level Detected	Typical Source of Contaminant
Bromide	unregulated		48 ppb	< 0.02 ppb	4/7/2020	Geology and natural weathering, industrial and consumer products
Unregulated Water Constituents of interest for fish aquariums, and home brewing[5]						
Alkalinity (mg/L as CaCO3)	unregulated		107	63	3/21/2023	Geology, natural weathering
Total Hardness (mg/L as $CaCO_3$)	unregulated		120	32	8/10/2021	Geology, natural weathering
Calcium Hardness (mg/L as CaCO3)	unregulated		98	25	4/11/2018	Geology, natural weathering
Silica	unregulated		59 ppm	33 ppm	10/4/2011	Geology, natural weathering. Rarely tested
Sodium	unregulated		22 ppm	6 ppm	4/29/2021	Geology, natural weathering

Footnotes:

1. U.S. Department of Health and Human Serv.ices recommends <0.7 ppm fluoride in drinking water

2. Highest locational running annual average was 9.65 ppb. In 2023, the highest concentrations of individual trihalomethanes were chloroform (5.8 ppb), bromoform (0.55 ppb), chlorodibromomethane (1.1 ppb), and bromodichloromethane (2.72 ppb).

3. There were no detection for Haloacetic acid compounds detected in 2023.

4. (PFBS)Perfluorobutanesulfonic acid; (PFPeS)Perfluoropentane sulfonic acid; (PFHxS)Perfluorohexanesulfonic acid; (PFOS)Perfluorooctanesulfonic acid; (PFBA)Perfluorobutanoic acid; (PFPeA)Perfluoropentanoic acid; (PFHxA)Perfluorohexanoic acid;

5. Ranges shown are from all 20 groundwater wells that supply the water system. Ranges in tap water at specific locations will depend on which wells serve the particular area.

Definitions:

Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

CaCO3: Calcium carbonate

EPA: U.S Environmental Protection Agency

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) : The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

mg/L: miligrams per liter

ppm: Parts per million is equivalent to milligrams per liter (m/l). One ppm is approximately equal to 1 drop in 22 gallons of water.

ppb: Parts per billion. One ppb is approximately equal to 1 drop in 22,000 gallons of water (equivalent to about 1 drop in a small swimming pool).

ppt: Parts per trillion. One ppt is approximately equal to 1 drop in 22,000,000 gallons of water (equivalent to about 1 drop in Long's Pond).

pCi/L: picocuries per liter is the unit of measure used to describe an amount of radiation.

Primary Standard: the MCL for these substances is set primarily for health reasons.

Secondary Standard: the MCL for these substances is set primarily for non-health reasons such as color, tase, or fixture staining or indirect health concerns when levels are too high.

µS/cm: Microsiemens per centimeter is a measure of electrical conductivity.

Some Contaminants Are Reasonably Expected To Be Found In Drinking Water

To ensure that tap water is safe to drink, the Department of Health and EPA prescribe regulations that limit the number of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the Washington Department of Agriculture regulations establish limits for contaminates in bottled water that must provide the same protection for public health.

Drinking water, including bottled drinking water, may be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily pose 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.

The sources of drinking water (both tap water and bottled water) includes rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and Herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.
- *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

Source Protection Information

The Washington State Department of Health Office of Drinking Water has compiled Source Water Assessment Program (SWAP) data for all community water systems in Washington. A source water assessment includes:

- A delineation (definition) of the source water protection area.
- An inventory of potential sources of contamination, and
- A susceptibility determination (how susceptible the source is to contamination).

SWAP data for your system is available online at https://fortress.wa.gov/doh/swap/

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health

Vulnerable Populations

Some people may be more vulnerable to contamination in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDs or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/ CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791).