



Pattison 500 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

Office Address:

1230 Ruddell Road SE
Lacey, WA 98503

Phone Number (s):

(360) 357-8783 or 1 (866) 357-8783

Fax Number:

(360) 357-1172

Email:

PUDCustomerService@thurstonpud.org

Website:

www.thurstonpud.org

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.

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 Pattison water system is fully metered and the total water produced for 2023 was 162,185,413 gallons. The system had approximately 39 gallons per minute leak loss for the year. In 2023 the average household used 233 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.

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.

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 from 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: Pattison 500 - ID# 665785

Your water comes from seven groundwater wells ranging from 140 to 218 feet deep. The system has eleven reservoirs with a total capacity of 636,400 gallons. The system is approved for 2333 connections.

Source	Susceptibility Rating	Treatment	Description
S05 Res Well	Low	Chlorine – All Sources	Treatment consists of a chemical feed pump injecting sodium hypochlorite (chlorine) to protect against possible bacterial contamination.
S01 Well #1, S04 Well #4, S07 ABS221,	Moderate		
S08 Well #8, S12 APB942	Moderate		
S13 AEJ194	High		

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	Volatile Organic Contaminants – 2022	Herbicide and/or Pesticide – 2016
Annual Nitrate	Radionuclide – 2021	Disinfection Byproducts – 2023
Inorganic Contaminants – 2016	Lead & Copper – 2021	PFAS – 2022 and 2023

PRIMARY CONTAMINANTS

<i>Microbiological</i>	<i>MCLG</i>	<i>MCL</i>	<i>Your Water</i>	<i>Compliant(Y/N)</i>	<i>Typical Sources</i>
Total Coliform Bacteria	N/A	TT	0	Y	Naturally present in the environment.
<i>Inorganic Contaminants</i>	<i>MCLG</i>	<i>MCL</i>	<i>Your Water</i>	<i>Compliant(Y/N)</i>	<i>Typical Sources</i>
Arsenic (ppb)	N/A	10	1	Y	Erosion of natural deposits
Nitrate (ppm)	10	10	0.97-3.07	Y	Runoff from fertilizer use
<i>State Regulated</i>	<i>SRL</i>	<i>SMCL</i>	<i>Your Water</i>	<i>Compliant(Y/N)</i>	<i>Typical Sources</i>
Sodium (ppm)*	5	N/A	7.0	Y	Geology, natural weathering.
<i>Lead and Copper Taken at Customer Taps</i>	<i>AL</i>	<i>No. of Homes Sampled</i>	<i>90th Percentile Value</i>	<i>No. of Homes Exceeding AL</i>	<i>Typical Sources</i>
Lead (ppb)	15	20	2.5	0	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	1.3	20	0.630	0	Corrosion of household plumbing systems; erosion of natural deposits
<i>Radioactive Contaminants</i>	<i>MCLG</i>	<i>MCL</i>	<i>Your Water</i>	<i>Compliant (Y/N)</i>	<i>Typical Sources</i>
Radium 228 (pCi/l)	0	5	1.07–3.25	Y	Erosion of natural deposits

*While there is no published MCL for sodium, waters with sodium levels in excess of 20 mg/l may be a concern to individuals suffering from hypertension or monitoring their sodium intake.

PFAS (Per- and polyfluoroalkyl substances)

PFOA (Perfluorooctanoic Acid) MCL: 4 ppt	PFBS (Perfluorobutanesulfonic Acid) Hazard Index of 1*
Your Water Source S01 Only	Your Water Source S01 Only
2.5 ppt	2.6 ppt
Typical sources of PFAS: Run-off or leaching from firefighting foam, industrial discharge, and landfills; wastewater treatment plants	

*Hazard Index 1 (unitless) containing two or more types of PFAS including PFHxS, PFNA, HFPO-DA and PFBS. Please see the Department of Health, Office of Drinking Water's website for more information on PFAS at <https://doh.wa.gov/community-and-environment/contaminants/pfas>.

Terms and Abbreviations Used:

ppm - parts per million

ppb - parts per billion

ppt - parts per trillion

pCi/l - picocuries per liter

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 known 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.

SRL (State Reporting Level): The minimum reportable detection of an analyte as established by Washington State Department of Health. If the test result is less than the SRL, the contaminant is considered not detected.

SMCL (Secondary Maximum Contaminant Level): These standards are developed as guidelines to protect the aesthetic qualities of drinking water and are not health based.

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

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 contaminants 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.

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).

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

