



# Water Quality Report Puget Island Water System

Owned and Operated by Public Utility District No. 1 of Wahkiakum County

**Message from Management:** The District is pleased to present the year 2017 Annual Water Quality Report. This report is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of potable drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the highest quality of your drinking water.

This report presents a summary of our water quality data, describes what the data means and reflects our level of compliance with State and Federal drinking water requirements. If you have any questions about this report or concerning your water utility, please contact us at 360-795-3266. We want our customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held the first and third Tuesdays of the month at 8:30 a.m. at the Public Utility District office in Cathlamet (45 River Street).



**Our Water Supply:** We purchase our water from the Town of Cathlamet. The Town has drawn its water for the past 48 years from the Elochoman River at an intake located approximately 3.5 miles upstream of the confluence with the Columbia River.



**Our Water Quality:** *The Puget Island Water System and the Town of Cathlamet routinely monitor for contaminants in your drinking water according to Federal and State laws.*

The table on the back of this page shows the results of monitoring to December 31, 2017. All drinking water may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the *Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.*

The sources of drinking water (both tap water and bottled water) include 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. In some cases, it dissolves radioactive materials and can pick up substances resulting from the presence of animals or from human activity.

Some people may be more vulnerable to contaminants 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 microbiological contaminants are available from the *Safe Drinking Water Hotline (800-426-4791).*



**Year 2017 Operations:** Wahkiakum PUD water crew completed the replacement of water meters with Automatic Meter Read (AMR) meters. These meters will now transmit meter reading via radio frequency to a mobile receiver. According to Electric Power Research Institute, advanced meters transmit 0.001 milliwatts radio frequency per square centimeter during transmission from 3 feet away – this is 5,000 times less than a cell phone that transmits 5 milliwatts radio frequency during a call held at the ear. Using AMR meters have greatly improved meter reading from three days to about four hours. Another benefit of AMR meters enables the PUD to obtain usage data and inform customers of potential leaks quickly to reduce their water loss and cost.



**Water Use Efficiency:** Wahkiakum PUD is happy to report we reduced our water losses to 10.9% in 2017. Water conservation may not seem necessary in our climate but the reality is that our clean water is a finite resource. It is up to each one of us to protect these resources for future generations. We are working tirelessly to reduce our water consumption and appreciate our customers' help in reporting any issues concerning water conservation. A benefit to reduced consumption is lower operating costs which may help defray future rate impacts.

## TEST RESULTS

Contaminant	Violation	Level Detected	Units	MCLG	MCL	Likely Source of Contamination	
Total Coliform Bacteria	No	Absent	Count	0	Present /absent	Naturally present in the environment	
Haloacetic Acids (HAA)	No	36,000	ppt	N/A	60,000	By-product of drinking water disinfection	
TTHM (total trihalomethanes)	No	36,530	ppt	N/A	80,000	By-product of drinking water chlorination	
Turbidity	No	0.05	NTU	N/A	0.3	Measurement of the cloudiness of water.	
Chlorine	No	1.46	ppm	4	4	Water additive used to control microbes. 1.02 ppm is the average	
Fluoride	No	0.88	ppm	4	4	Water additive which promotes strong teeth. 0.69 ppm is the average	
Nitrate	No	1.02	ppb	10	10	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits	
Contaminants	Year Tested	Violation	90 <sup>th</sup> Percentile	Units	Samples >AL	AL	Major Sources in Drinking Water
Lead	2017	No	8	ppb	0 of 10	15	Corrosion of household plumbing systems; erosion of natural deposits
Copper	2017	No	0.81	ppm	0 of 10	1.3	Corrosion of household plumbing systems; erosion of natural deposits

Note: In this table you will find terms and abbreviations to help you better understand these terms we have provided the following definitions:

**Parts per million (ppm)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb)** - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per trillion (ppt)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000

**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 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. MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

**Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Nephelometric Turbidity Unit (NTU)** - A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

## Significance of Contamination

### Microbiological Contaminants:

**Total Coliform** - Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially-harmful, bacteria may be present. Coliforms were not detected in any samples taken over the course of 12 months. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, we must notify the public by newspaper, television or radio, and take action to find the source of the problem, and disinfect the system.

**Turbidity Syndrome** - Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

### Volatile Organic Contaminants:

**TTHMs (Total Trihalomethanes)** - Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

### Inorganic Contaminants:

**Asbestos** - Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.

**Copper** - Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

**Fluoride** - Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

**Lead** - Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the *Safe Drinking Water Hotline (800-426-4791)*. Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

**Nitrate** - Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill, and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome

**Arsenic** - occurs naturally in the environment, being the twentieth most common element in the Earth's crust. Arsenic is added to the environment by weathering of rocks, burning of fossil fuels, smelting or ores and manufacturing. It is widely distributed in nature and is mainly transported in the environment by water. Arsenic exposure can cause a variety of adverse effects. Acute high-dose oral exposure to arsenic typically leads to gastrointestinal irritations accompanied by difficulty in swallowing, thirst, abnormally low blood pressure, and convulsions. Studies by the food and Drug Administration (FDA) have found that fish and seafood are higher in arsenic content than any other foods and account for the largest contribution to total arsenic intake in the typical adult diet.