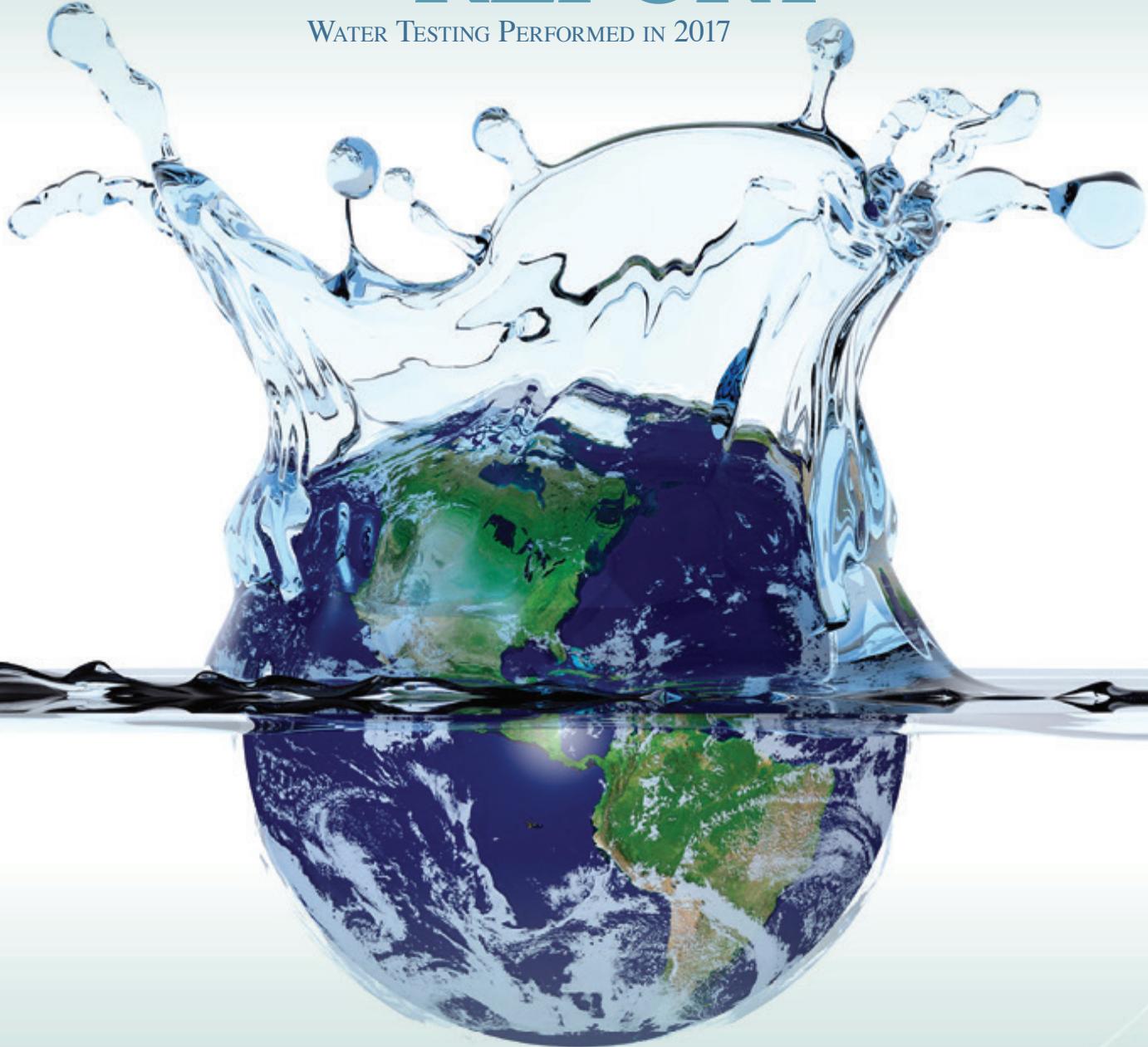


ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



Presented By
City of Washougal

Quality First

Once again we are pleased to present our annual water quality report covering the period between January 1 to December 31, 2017. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education, while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Community Participation

You are invited to participate in our public forum and voice concerns about your drinking water. City Council meetings, Planning Commission, and Council Workshop meetings are open to the public to voice questions or concerns regarding your water. Please visit our website at www.cityofwashougal.us for a schedule. Meetings are held at City Hall, 1701 C Street, Washougal, WA.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Substances That Could Be in Water

In order to ensure that tap water is safe to drink, the U.S. EPA and the Department of Health prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration and the Washington Department of Agriculture regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, radioactive material; and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban storm-water runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to <http://goo.gl/QMoIXT>.

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So, get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/lead.

Protecting Your Water

Bacteria are a natural and important part of our world. There are around 40 trillion bacteria living in each of us; without them, we would not be able to live healthy lives. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern, however, because it indicates that the water may be contaminated with other organisms that can cause disease.

In 2016, the U.S. EPA passed a new regulation called the Revised Total Coliform Rule, which requires additional steps that water systems must take in order to ensure the integrity of the drinking water distribution system by monitoring for the presence of bacteria like total coliform and *E. coli*. The rule requires more stringent standards than the previous regulation, and it requires water systems that may be vulnerable to contamination to have in place procedures that will minimize the incidence of contamination. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment of their system and correct any problems quickly. The U.S. EPA anticipates greater public health protection under the new regulation due to its more preventive approach to identifying and fixing problems that may affect public health.

Though we have been fortunate to have the highest-quality drinking water, our goal is to eliminate all potential pathways of contamination into our distribution system, and this new rule helps us to accomplish that goal.



QUESTIONS?

The City of Washougal is dedicated to providing our community and all of its visitors with drinking water of the highest quality. For more information about this report, or for any questions relating to your drinking water, please call Brian Wilson, Water Operations Manager, at (360) 835-2662.

Water Treatment Process

Our treatment process consists of two steps. First, chlorine is added as a precaution against any bacteria that may enter the system through line breaks or low pressure events. We carefully monitor the residual chlorine levels, adding the lowest quantity necessary to protect the safety of your water without compromising taste. Next, sodium hydroxide is added to adjust the pH in an effort to minimize the natural corrosion of pipes and plumbing fixtures.



After treatment, the water is pumped to sanitized reservoirs, the distribution system, and into your home or business.

Where Does My Water Come From?

The City of Washougal has two sources supplying our drinking water. Our main production facility is located on the west end of town at 411 Third Street. Production at this site started in 1942 with well # SO5. Through the years as demand increased, four additional wells were drilled: SO6 in 1947, SO7 in 1954, S11 in 1983, and S13 in 2007. Our second source is primarily used in the summer and is located in Upper Hathaway Park at 2801 I Street. Here we have one active well, SO4, drilled in 1931. Combined, these two sources provide roughly 553 million gallons of clean drinking water each year.

What's a Cross-connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (back-pressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (back-siphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors such as foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.



Sample Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data is included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

| REGULATED SUBSTANCES | | | | | | | |
|---|--------------|-----------------|--------------|-----------------------------|--|---------------------|---|
| Substance (Unit of Measure) | Year Sampled | MCL [MRDL] | MCLG [MRDLG] | Amount Detected | Range Low-High | Violation | Typical Source |
| Chlorine (ppm) | 2017 | [4] | [4] | 0.75 | 0.2–1.5 | No | Water additive used to control microbes |
| Haloacetic Acids [HAA] (ppb) | 2017 | 60 | NA | 27 | ND–27 | No | By-product of drinking water disinfection |
| Nitrate (ppm) | 2017 | 10 | 10 | 2.8 | ND–2.8 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| TTHMs [Total Trihalomethanes] (ppb) | 2017 | 80 | NA | 3.5 | 2.3–3.5 | No | By-product of drinking water disinfection |
| Tap Water Samples Collected for Lead and Copper Analyses from Sample Sites throughout the Community | | | | | | | |
| Substance (Unit of Measure) | Year Sampled | AL | MCLG | Amount Detected (90th%tile) | Sites Above AL/Total Sites | Violation | Typical Source |
| Copper (ppm) | 2017 | 1.3 | 1.3 | 0.47 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| Lead (ppb) | 2017 | 15 | 0 | 2.7 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| SECONDARY SUBSTANCES | | | | | | | |
| Substance (Unit of Measure) | Year Sampled | SMCL | MCLG | Amount Detected | Range Low-High | Violation | Typical Source |
| Chloride (ppm) | 2014 | 250 | NA | 2.66 | ND–2.66 | No | Runoff/leaching from natural deposits |
| pH (Units) | 2017 | 6.5–8.5 | NA | 7.19 | 6.78–7.60 | No | Naturally occurring |
| Sulfate (ppm) | 2014 | 250 | NA | 3.91 | ND–3.91 | No | Runoff/leaching from natural deposits; Industrial wastes |
| UNREGULATED CONTAMINANT MONITORING RULE - PART 3 (UCMR3) | | | | | | | |
| Substance (Unit of Measure) | Year Sampled | Amount Detected | | Range Low-High | Typical Source | | |
| Chlorate (ppb) | 2014 | 158 | | 28–158 | By-product of disinfection | | |
| Hexavalent Chromium (ppb) | 2014 | 0.051 | | 0.041–0.051 | Oxidation of naturally occurring chromium present in igneous geologic formations | | |
| Strontium (ppb) | 2014 | 65.0 | | 47.8–65.0 | Mineral that occurs naturally in the environment | | |
| Vanadium (ppb) | 2014 | 3.3 | | 3.1–3.3 | Naturally occurring element | | |
| OTHER SUBSTANCES | | | | | | | |
| Substance (Unit of Measure) | Year Sampled | Amount Detected | | | Range Low-High | Typical Source | |
| Conductivity (Units) | 2014 | 113 | | | NA | Naturally occurring | |
| Hardness (ppm) | 2016 | 38 | | | NA | Naturally occurring | |
| Magnesium (ppb) | 2017 | 3.3 | | | NA | Naturally occurring | |
| Sodium (ppm) | 2017 | 16 | | | NA | Naturally occurring | |
| Turbidity (NTU) | 2014 | 0.10 | | | NA | Naturally occurring | |

Definitions

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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.

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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

SMCL (Secondary Maximum Contaminant Level): SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.