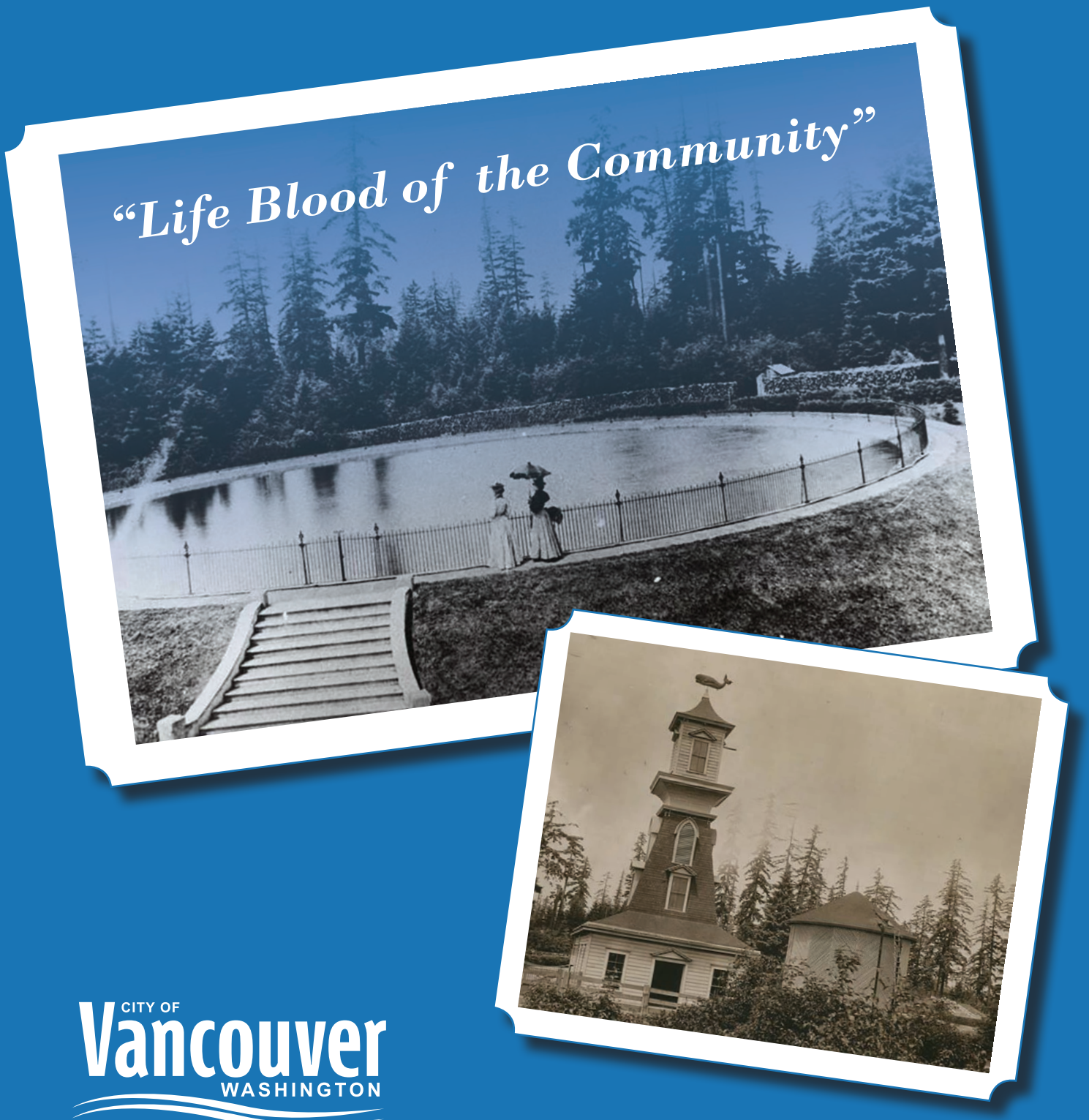
2019 Water Quality Report



CITY OF
Vancouver
WASHINGTON

CITY OF Vancouver WASHINGTON 2019 Drinking Water Quality Report

Information in this Report

Important Information for Non-English Speaking Customers/Requesting Other Formats

Please note: This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it. Call 360-487-8177 or email UtilitiesCS@cityofvancouver.us for help.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

В этом сообщении содержится важная информация о воде, которую вы пьёте. Попросите кого-нибудь перевести для вас это сообщение или поговорите с человеком, который понимает его содержание.

Tài liệu này có tin tức quan trọng về nước uống của quý vị. Hãy nhờ người dịch cho quý vị, hoặc hỏi người nào hiểu tài liệu này.

To request other formats, contact:
Vancouver Public Works Operations
360-487-8177 | WA Relay: 711

2019 Drinking Water Quality Report

Message to Customers: Improving Our Water Infrastructure

The City of Vancouver is pleased to present its annual Water Quality Report, with results of rigorous testing of our drinking water done by an independent lab that meets state and federal approvals. Test results conducted in 2019 show Vancouver's water meets all state and federal standards, and in many cases, is better than Safe Drinking Water regulations require.

All of Vancouver's water comes from underground aquifers and is delivered through a closed, protected, and monitored system. In keeping with federal and state requirements, our water is treated with a trace amount of chlorine - a safe level that meets health standards for municipal water systems - as an extra precaution to guard against any potential contaminants, including viruses.

Vancouver's Utility is the third largest municipal water provider in the state, covering a 72-square-mile service area with more than 1,000 miles of water pipe and 40 wells at nine water stations.
In 2019, the Utility provided 9.3 billion gallons of water to our more than 250,000 customers. Rates paid by water customers support around-the-clock operations and maintenance, as well as ongoing improvements to infrastructure and security of our water system. Ongoing replacement of aging water pipes continues throughout the Utility's service area, improving efficiency and reliability.

One of the Utility's most significant projects in recent times is currently underway at Water Station 1, the 25-acre Utility property in the Central Park Neighborhood. This multi-phase project will increase security, reliability and performance of the City's most vital water station, which supplies more than a quarter of all of Vancouver's water. The second phase of this project, anticipated to be completed in late 2021, will provide two new ground-level reservoirs, new elevated tank, and new security fencing. (See photos below and elsewhere in this report.) Multi-modal path modifications and added lighting are also planned on the public-access portion of the site.

Federal regulations require Vancouver to make its annual drinking water report available to all customers. This year, our report is being provided to you electronically. To announce the transition from printed to electronic reports, postcards were sent to all in our Water Utility service area. In future years, look for a notice in your Utility bill announcing when the report is ready to view.

Water Utility Engineering and Operations staff tour new Water Station 1 improved facilities, designed to increase security, reliability and performance of the City's most prolific water source.

CITY OF Vancouver WASHINGTON 2019 Drinking Water Quality Report

Water Quality Summary for 2019

The City of Vancouver reaches beyond state and federal requirements and has its water analyzed for more than 238 different substances, some regulated and some not regulated. The substances listed below are regulated and were detected in Vancouver's water during 2019. All samples taken are from treated water delivered to the distribution system. Chemical analysis of organics is measured in parts per billion (ppb). Analysis of inorganics is measured in parts per million (ppm). Highest measured values represent an exception to the overall average concentrations in water delivered in the system. All results are below levels allowed by federal and state agencies.

Required Testing at Groundwater Sources

Contaminant (unit)	Highest Level Allowed (MCL)	Highest Level Detected	Lowest Level Detected	Ideal Goal (MCLG)	Potential Sources of Contaminant
Fluoride (ppm)	4.0	0.93	0.47	4.0	Erosion of natural deposits; additive for strong teeth
Nitrate (ppm)	10	4.0	ND	10	Fertilizer, animal waste, septic systems, sewage

Required Testing Within the Distribution System

Contaminant (unit)	Highest Level Allowed (MCL)	Highest Level Detected	Lowest Level Detected	Ideal Goal (MCLG)	Potential Sources of Contaminant
Total Trihalomethane (ppb)	80	9.8	0.6	N/A	Byproduct of disinfection with chlorine
Haloacetic Acids (ppb)	60	2.4	ND	N/A	Byproduct of disinfection with chlorine
Total Coliform Bacteria	Less than 5% positive/mo	0%	0%	0%	Naturally present in environment, contamination by mammals
Chlorine (ppm)	4.0	1.10	0.79	1.0	Additive for disinfectant residual

Radionuclides

Gross Beta (pCi/L)*	50	ND	ND	0	Naturally occurring
Radium-228 (pCi/L)*	5	ND	ND	0	Naturally occurring

Secondary (Aesthetic) Standards and Other Characteristics

Please note: These are additional substances that relate to aesthetic qualities and may be of interest to customers.
All of the substances shown below were tested at groundwater sources.

Contaminant (unit)	Highest Level Allowed (MCL)	Highest Level Detected	Lowest Level Detected	Ideal Goal (MCLG)	Potential Sources of Contaminant
Copper (ppb)	1000	67	ND	N/A	Naturally occurring
pH	N/A	8.1	7.0	6.5-8.5	Naturally occurring or treatment adjustment

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Additional Frequently Requested Information

The following results are not required by law, but are provided by the City of Vancouver Water Utility to keep you informed about your water.

Contaminant (unit)	Highest Level Detected	Lowest Level Detected
Alkalinity (ppm)	120	75
Calcium (ppm)	36	12
Hardness (ppm)	130	55
Magnesium (ppm)	10	6.0
Potassium (ppm)	4.3	2.1
Sodium* (ppm)	34**	7.5

**EPA guidance level for sodium in drinking water is 20 mg/L for those on diets with daily sodium restrictions*

***Elevated level is from one water station and a byproduct of pH adjustment for EPA-required corrosion control.*

Terms and Definitions in This Report: **AL:** Action Level - Concentration of a contaminant which, if exceeded, triggers treatment or other requirements a water system must follow. **EPA:** United States Environmental Protection Agency, which enforces the Safe Drinking Water Act. **WSDOH:** Washington Department of Health, which enforces the Safe Drinking Water Act within the State of Washington. **<:** Less than. **MCL:** Maximum Contaminant Level. Highest level of a contaminant allowed in drinking water. MCLs are set as close to ideal levels as current treatment technology allows. **ppb:** Parts per billion. One ppb = one milligram per 1000 liters. **ppm:** Parts per million. One ppm = one milligram per liter. **mg/L:** One milligram per liter. See ppm. **ND:** Non Detect. **THM:** Trihalomethanes. Total concentration of a series of chlorinated organic compounds, disinfection byproducts that are unavoidable and caused by a chemical reaction between chlorine and naturally occurring organic matter in water. **MCLG:** Maximum Contaminant Level Goal. Level of contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety. Only Primary Standards have MCLGs because Secondary Standards are not set for health reasons. **pCi/L:** picocuries per liter. Unit of measurement for radionuclides. **Hardness:** To convert ppm to grains per gallon, divide by 17.12.

EPA Mandatory Safe Drinking Water Statements for All Community Water Systems

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 (1-800-426-4791).

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 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 Safe Drinking Water Hotline (1-800-426-4791).

Throughout the country, sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. The City of Vancouver relies 100 percent on groundwater. As water travels through aquifers, it dissolves naturally-occurring minerals and can pick up inorganic contaminants, which are naturally occurring, and organic contaminants, such as byproducts of industrial processes. To ensure safe tap water, the EPA and Washington Board of Health regulate certain contaminants in public drinking water. Vancouver's water is tested for more substances than required. All results, shown here, meet or are better than required.

EPA Unregulated Contaminant Monitoring

Unregulated contaminants are those for which EPA has not established drinking water standards. The Safe Drinking Water Act requires that EPA monitor for no more than 30 unregulated contaminants every five years. The Unregulated Contaminant Monitoring Rule (UCMR 4) sampling provides EPA with data to help determine if new regulatory standards are needed to improve drinking water quality. For more information, please call EPA's hotline at 800-426-4791 or visit www.epa.gov/dwucmr. To view results from Vancouver's most recent monitoring of EPA unregulated contaminants, please view the 2018 Water Quality Report through the City's website at www.cityofvancouver.us/water.

CITY OF Vancouver WASHINGTON 2019 Drinking Water Quality Report

Information About Lead and Copper

EPA rules require all public drinking water systems to regularly test a sample of potentially high-risk homes for lead and copper at an inside tap. In accordance with those federal and state regulations, Vancouver's Utility will be conducting tests next in July 2020. In testing conducted in 2017, shown below, all results were beneath EPA action levels. Lead is not present in our Utility's source water. Visit www.cityofvancouver.us/water for details.

More Information: In Washington State, lead in drinking water comes primarily from materials and components used in household plumbing. The more time water has been sitting in pipes, the more dissolved metals, such as lead, it may contain. Elevated levels of lead can cause serious health problems, especially in pregnant women and young children. 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 www.epa.gov/safewater/lead.

	MCLG	Action Level*	Results**	Homes Above Action Level	Source
Lead (ppb)	0	15	1.6	0	Corrosion of home plumbing systems
Copper (ppm)	1.3	1.3	0.353	0	Natural deposits/Corrosion of home plumbing systems

Note: Table above shows results of July 2017 testing

*Concentration of contaminant which, if exceeded, triggers treatment or other requirements
**Represents 90th Percentile, or 90 percent of the samples were less than the values shown

Annual Checkup Required: Backflow and Cross Connection Prevention

If you are a property owner with an in-ground sprinkler system or private well, state and local laws require that you maintain a backflow prevention device on your water service line. To assure it is working properly, you are required to have an annual inspection performed by a certified tester. Results of your annual inspection must be reported to the City of Vancouver's Water Utility.

Backflow occurs when water flows in the opposite direction than intended, which could allow contaminants to enter plumbing and/or the public water system. Annual inspections of your backflow prevention device protect you and your community.

Need to schedule an inspection? You will find a list of certified backflow water testers available online at: www.cityofvancouver.us/backflow. You can also email your test results to backflowtestreports@cityofvancouver.us. Questions? Email or call 360-487-8276.

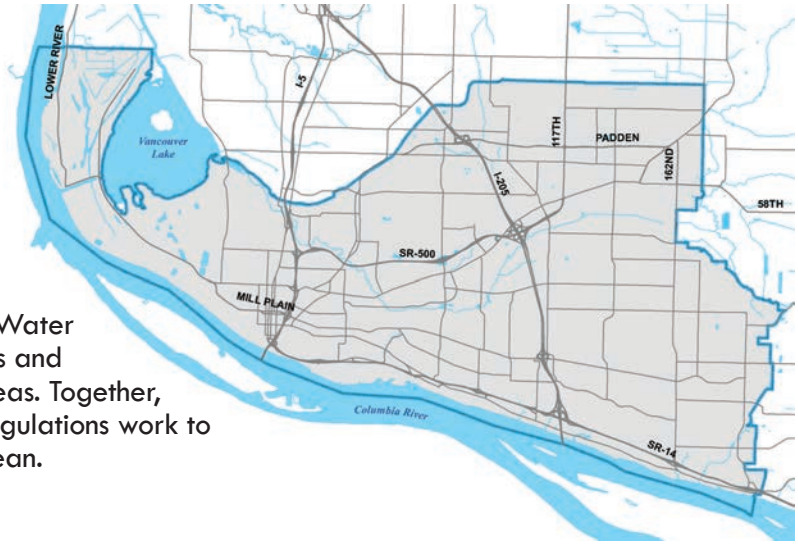
CITY OF Vancouver WASHINGTON 2019 Drinking Water Quality Report

Aquifers - Source of 100% of Vancouver's Water Supply

The City of Vancouver gets all of the water supplied throughout our service area from wells tapping three underground aquifers – Orchards, Troutdale and the Sand-and-Gravel aquifers.

An aquifer is an underground layer of unconsolidated rock or sand that is saturated with usable amounts of water. Aquifers, which store and carry water, form significant natural water supplies. Recharge areas are important to a healthy aquifer. In a recharge area, water is able to seep into the earth and down to the aquifer, helping recharge these vital natural resources.

Vancouver's Water Service Area



To keep tap water safe, EPA prescribes regulations that limit contaminants. The City's Water Resources Protection Program actively inspects and assists businesses in special well protection areas. Together, the City, State of Washington, and federal regulations work to keep aquifers safe and our drinking water clean.

City of Vancouver PWS Water System ID 91200L

Answers to Frequently Asked Questions

Does my drinking water contain chlorine?

Yes. While Vancouver's high quality water meets all federal and state standards, a trace amount of chlorine (not chloramine) residual has been added as a precaution against any potential contaminants, including viruses, that might somehow enter the system. To reduce chlorine taste, fill a pitcher with water and let it sit a bit. The chlorine will react with the air and evaporate from the water. Some customers prefer to use a filter. Keep in mind that your home plumbing can affect water taste, too.

Does my drinking water contain fluoride?

Yes. Vancouver's water is fluoridated with sodium fluoride – not fluoride byproducts from other processes – to about 0.6-0.8 milligrams per liter in compliance with federal and state regulations and guidelines. Most water supplies contain some naturally occurring fluoride, and many communities add fluoride to drinking water to promote dental health. Fluoridation in the City of Vancouver dates back to a 1961 Council ordinance, backed by a citizens' referendum in early 1962. The EPA's drinking water standard and maximum amount for fluoride is 4.0 mg/L. Washington State Board of Health's 2016 rule on fluoridation of drinking water incorporates the new single optimal fluoride level of 0.7 mg/L recommended by the U.S. Department of Health and Human Services, and reduces the current operating range to 0.5 to 0.9 mg/L. For more information, please visit the EPA website at epa.gov/safewater. Information is also available from the state Department of Health at doh.wa.gov and the U.S. Department of Health and Human Services website at cdc.gov/Fluoridation.

What should I know when setting new appliances for water hardness?

Many new dishwashers and other appliances have settings that are determined by water hardness. In 2019 water testing, high and low hardness levels found in our water, as figured in grains per gallon (gpg), ranged from 7.6 to a low of 3.2. Information about hardness is also listed in this report under other characteristics.

2019 Drinking Water Quality Report

H2O: You Can Make a Difference for Your Neighbors in Need

A little help can go a long way for those who need it most. Now, more than ever, low-income residents in our community who are in financial crisis could use help in paying for water and/or sewer utility services.

Help to Others, or H2O, is a City of Vancouver Utility program designed to assist qualifying low-income residents in crisis situations pay for vital water and/or sewer. The program is supported by donations from caring residents and businesses in our community. Donations are tax deductible under applicable IRS regulations.

Every dollar donated to the H2O program goes directly to helping people in our community. No matter how small or how big, your contribution to H2O makes a difference to others. Please consider joining us in helping our community by making a donation in 2020. To learn how you can help by making a one-time or recurring H2O donation by check or credit card, please call 360-487-7999 or visit www.cityofvancouver.us/AtYourService.

Moving? Go Online to Start or Stop Your Water Service

Residents who are moving within the City of Vancouver's Water Utility service area and need to start or stop service can now do so online. Visit www.cityofvancouver.us/AtYourService and click on Start or Stop service forms, as needed. Please note: Forms must be submitted a minimum of two business days prior to start date. Prefer to speak with a customer service representative? Call 360-487-7999 during regular Utility Services office hours, 8 a.m. to 5 p.m., Monday, Tuesday, Thursday and Friday, and 9 a.m. to 5 p.m. Wednesday. Please note that the office is closed to phone calls from noon to 1 p.m. each day.

Get Your Bill Securely. Reduce Clutter.

Save time and paper. Sign up now to get your City of Vancouver Utility bill by email. Here's how: Visit www.cityofvancouver.us/AtYourService, sign into your account and click on the eBilling option. Follow all steps. Be sure to confirm your email address to complete the process.

Bonus: You may qualify for as much as $100 back on the cost of a newly planted tree through the Urban Forestry TreeFund. You'll reduce mailbox clutter, get your bill securely, and help make your neighborhood and Vancouver a little more green. For more about our TreeFund Program, please visit www.cityofvancouver.us/urbanforestry.

Want to take the work out of bill paying? Consider enrolling in AutoPay, a free service of the City of Vancouver that lets our valued customers pay water, sewer and stormwater Utility bills automatically using a banking or credit card account. Visit www.cityofvancouver.us/AtYourService and click on AutoPay.

2019 Drinking Water Quality Report

Save Water: Check for Leaks

Water is one of our most precious resources. Yet, costly leaks account for about 1 trillion gallons of water wasted in the United States each year. Here's how to find leaks:

Start with your water meter. Make sure no water is being used in or outside of your home. Then check the meter's flow indicator, typically shown as a star, triangle or sweeping hand. If the flow indicator is spinning, you likely have a leak.

Outside, look for unusual vegetation growth or moist areas in the lawn or landscaping. Inside, check toilets for leaks by putting a few drops of food color or a dye tablet into the upper water tanks. Wait 30 minutes and do not use or flush. If color appears in the bowl, there is a leak.

If needed, contact a license plumber for help with fixing leaks in your personal plumbing.

Questions? Please call 360-487-7999 to speak with a Utility customer service representative.

Helpful Contacts and Webpages to Keep You Informed

Drinking Water, Water Programs and Services

City of Vancouver Water Quality/Operations:
cityofvancouver.us/water or 360-487-8177

Vancouver Utility Customer Service (bills/service):
cityofvancouver.us/AtYourService or 360-487-7999

Backflow and Cross Connection Prevention:
www.cityofvancouver.us/backflow or 360-487-8276

Water Resources Education Center:
cityofvancouver.us/watercenter or 360-487-7111

Water Resources Protection Program:
cityofvancouver.us/waterprotection or 360-487-7130

EPA Safe Drinking Water:
epa.gov/safewater or 800-426-4791

Follow Public Works/Utility On Social Media:

Facebook:
www.facebook.com/VancouverPublicWorks

Instagram:
www.instagram.com/vancouverpublicworksus

Twitter:
twitter.com/VanPubWorksUS
@VanPubWorksUS

All City of Vancouver Social Media:
www.cityofvancouver.us/community/page/stay-connected-vancouver

Brief History of Vancouver's Water Utility

"Without water there would be no city." Since Vancouver's early days, water has been essential to assuring a safe, healthy and thriving community. As stated in the City's *Vancouver on the March, Civic Report for 1938-1940*, water is the 'Life Blood of the Community" that made it possible. Here is a brief look at the complex history of water in Vancouver:

In 1824-25, when the Hudson's Bay Company chose a bluff overlooking the mighty Columbia River, known as *Nchi-Wana* or 'big river' by Native Americans who first lived here, as the original site for a new fort, they soon discovered a critical component was missing: Potable water. Without springs or a well, workers and a team of oxen had to transport river water to the fort, a task that took an entire day. The conveyance, using sections of a huge tree, was reported to be as rustic as the road traveled.

Things improved briefly in 1829, when the Hudson's Bay Company relocated the fort to its present location and excavated several wells within the stockade. (A replica of a 30-foot deep well stands today in its original location.) Eventually, however, the shallow wells became contaminated, necessitating a return to the sometimes muddy river water. The U.S. Army, which followed to maintain order, also depended upon the Columbia River for water. So did residents of the nearby growing village, relying on enterprising vendors with horse-drawn wagons who went from house to house selling water, a practice that would continue in the area for decades.

1921

Historians believe that significant fires, starting about 1861, and the need for better sanitation helped to spark development of water systems here. In 1867, the Vancouver City Council passed an ordinance establishing the first fire department. A year later, the Vancouver Water Company was formed by seven individuals. One was the fire captain. The company developed a spring collection system known as Ellsworth Springs that could convey a clean, reliable supply of water via a wooden flume to a 100,000 gallon reservoir east of Vancouver Barracks.

As Vancouver's population grew, so did the demand for water. The Crystal Springs Water Company was formed in 1882, and later joined with the Vancouver Water Company. Water main pipes were laid in Vancouver streets. Meanwhile, the army decided to construct its own water system in 1888, using new drilling technology to tap into artesian wells and construct a reservoir with a 626,000-gallon capacity, south of Fourth Plain and east of Fort Vancouver Way.

The civilian water supply was provided by two competitors, the Vancouver Water Company with its Ellsworth Springs water, and the Columbia Land and Improvement Company, with its well supply adjacent to the army's wells and at an elevation capable of providing water to the entire city, a new development. Fires continued to be a concern, with blazes consuming many Vancouver businesses in the 1880s and the County Courthouse in 1890.

At times, there wasn't enough water to fight the fires. A rate war ensued, with each company trying to undercut the other. In 1901, John Norris and Edmund Rice formed the Vancouver Water Works Company and bought both companies. However, ownership changed hands numerous times until the mid-1930s, when poor management led to poor infrastructure and inadequate water service.

On June 1, 1937, the City purchased the failing water system for $610,000, based on an independent appraisal. Before the deal closed, the roof on the old reservoir caved in and a couple of months later, the old 100,000-gallon elevated wooden tank started to collapse. With municipal bonds and the help of the Work Progress Administration (WPA) established by President Franklin Roosevelt, the City built new wells, a new 4-million gallon reservoir, a new 0.25 million-gallon elevated tank and 5 miles of water main to improve supply from Ellsworth Springs. At last, an abundant supply of clean water, backed by plenty of pressure. And none too soon.

Population exploded in Vancouver in the 1940s, as workers flooded the area seeking Kaiser shipyards jobs to support the war effort. The City's population jumped from almost 19,000 to almost 42,0000. Everyone needed water.

After the war, the federal Housing Authority turned its system over to the City. In the late 1960s, the population boomed again and water demands increased. The City bought Orchards Waterworks in 1966 and the Foothills Farm water system in 1972, expanding service to the unincorporated area where large developments, small water mains and septic systems made for service issues and water shortages.

As the customer base continued to expand, the Utility invested further in its water system and well stations, ultimately removing the spring collection at Ellsworth. In 1974, the Safe Drinking Water Act was put into effect and testing was required to assure water quality and public health.

Fast forward to 2020, the City of Vancouver's Utility is now the third largest municipal water provider in the state of Washington, providing safe, clean, thoroughly tested water to more than 250,000. The Utility is continuing to improve the water system and assure ample supply for a vital community.

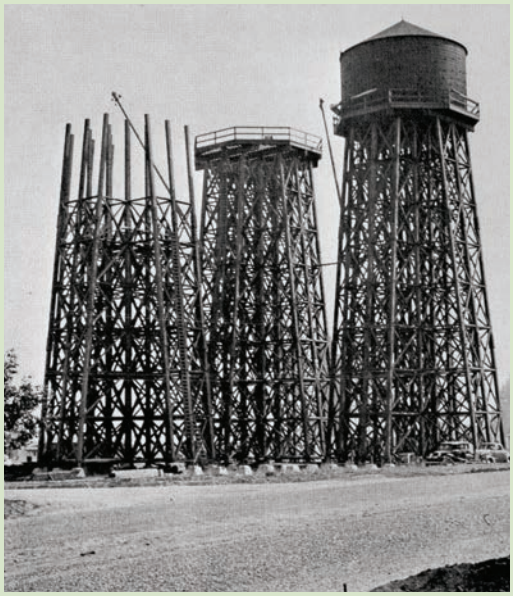
Learn more about the history of Vancouver water:

- Illustrated History of Clarke County, WA Territory - 1885

- Vancouver on the March, Civic Report for 1938-1940

- Clark County Historical Museum (CCHM)- Includes archives, photos, and Vancouver Water Delivery 1824-1930, Jim Pestillo

Historic photos shown here - Clark County Historical Museum



Then: Wooden towers being constructed in Vancouver's McLoughlin Heights area to serve water customers.

Now: New standpipe reservoir under construction at Water Station 1. When completed, it will hold 1 million gallons of clean drinking water. The finished tower will be painted green, similar to existing City water towers elsewhere.