



CITY OF KENT

2018 Water Quality Report

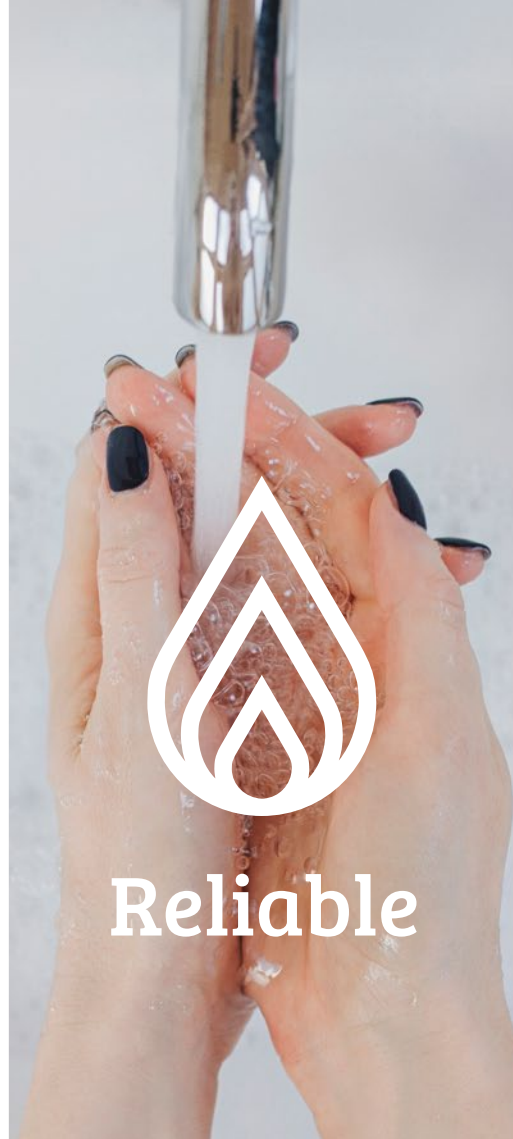


*This report contains important
information about your drinking water.*

PWS ID 381501



Essential



Reliable



Invaluable

Imagine a day without water.

Committed to delivering the highest quality water

The City of Kent again provides our annual Water Quality Report to all our customers, in compliance with federal and state drinking water regulations. We are required to provide this report by July 1 of each year. This edition summarizes the water quality testing completed from January through December 2018.

The purpose of this report is to share a summary of where your water comes from and how your water was treated and tested during 2018. We continue our commitment to delivering high quality drinking water.

We remain diligent in meeting the challenges of water source protection, conservation and community education while continuing to serve the needs of all water users in a fiscally responsible manner.

For questions related to drinking water, call **253-856-5600**. You may also contact the Washington State Department of Health, Office of Drinking Water at **253-395-6750**.



Kent water facts

Sources

16 wells

2 springs

1 surface
(Tacoma Water)

2.770 billion gallons
of water produced

11,157 routine
water quality tests
performed

Storage

9 water reservoirs

23.2 million
gallons of storage
for peak demand &
fire flow

6 pump stations

7 primary pressure
zones

Distribution

69,841 water
customers served

15,256 water
service connections

287 miles of
water main

8,841 water
valves

2,954 fire hydrants



Multiple water sources

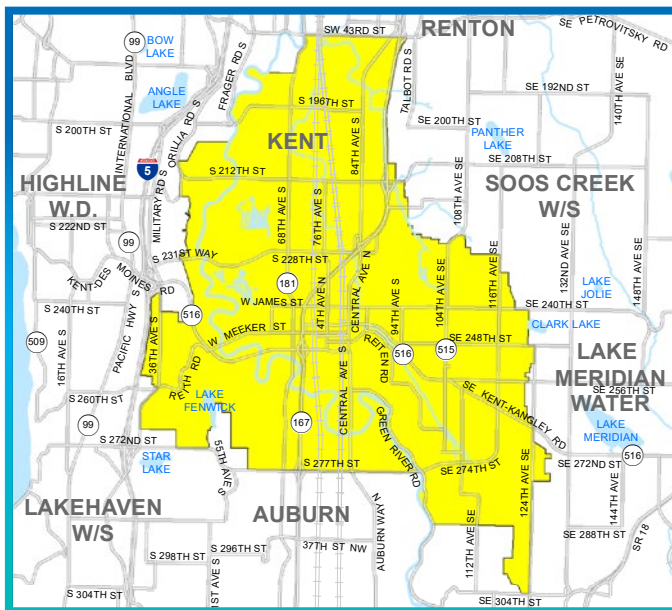
The City's primary water supplies come from either a spring or well drilled into an underground aquifer (a natural underground water reservoir).

To provide for future growth and water system demands, the City has partnerships with Tacoma Water, Covington Water District and Lakehaven Utility District to obtain surface water from the Green River through the Regional Water Supply System.

Kent also has a number of interties linking our water system with all our neighboring water providers to provide emergency service among water providers. Water providers include the cities of Auburn, Renton, Tacoma and Tukwila as well as Lake Meridian Water, Highline Water District and Soos Creek Water & Sewer District.

Customers may notice slight taste differences due to the operation of these various sources and interties, but these water providers must meet the same rigorous standards as the City of Kent.

City of Kent water service area





Howard Hanson Dam



How is my water treated and purified?

The primary treatment methods for water supplied to Kent customers are chlorination, fluoridation and pH adjustment.

- **Chlorine** is used for disinfection of the water supply. Chlorine kills germs and microorganisms that may be in the water supply and acts as a protective barrier from any recontamination while water is in the distribution system. The average chlorine residual in your drinking water is 0.81 parts per million (ppm).
- **Sodium Fluoride** is added to the water supply to aid in the prevention of tooth decay. Fluoride levels are maintained at an average of 0.70 ppm.
- **Sodium Hydroxide** is added to the water supply to raise pH levels. pH levels (a measurement of acidity) are adjusted to make the water less corrosive on plumbing and reduce the amount of lead and copper that can dissolve into drinking water.

The City of Kent also obtains water from the City of Tacoma. Tacoma's water supply is surface water coming from the Green River in southeast King County. It is also disinfected with chlorine, fluoridated and pH-adjusted with sodium hydroxide. In addition, Tacoma uses ozone to control taste and odor. This report includes Tacoma's water quality in our system.



For more information on Tacoma Water, visit:
mytpu.org/tacomawater/water-quality

Unwanted medicine return program

Pharmaceuticals and personal care products, abbreviated as PPCPs, are a group of compounds consisting of human and veterinary drugs (prescription or over-the-counter) and consumer products such as perfumes, lotions, sunscreens, housecleaning products and others. These compounds have been detected in trace amounts in surface water, drinking water and wastewater in the United States and Europe.

Pharmaceuticals can enter the water when they are flushed down toilets, put into sinks, thrown into the garbage or when humans or animals pass drugs through their bodies. Excretion of medicines that pass through our bodies is the largest source of the pollution and is more difficult to prevent from entering sewage or septic tanks.

To date, scientists have found no evidence of adverse human health effects from PPCPs in the environment. However, the EPA is committed to investigating PPCPs and developing strategies to make sure the health of the environment and the public is protected.

Kaiser Permanente is participating in King County's medication disposal program to encourage responsible disposal of unwanted medicines. Disposal kiosks are open to anyone in the community. Kent Medical Center Pharmacy has a disposal kiosk available.

For more information on their program and other locations, visit wa.kaiserpermanente.org/html/public/pharmacy/drug-disposal

For other locations in King County and answers to questions about disposing of unwanted medicines, visit KingCountySecureMedicineReturn.org

Protecting our groundwater

Several aquifers supplying Kent's water are shallow and receive most of their water through infiltration (rainfall trickling through the ground into the aquifer). Because of this, the aquifers are susceptible to contamination from above-ground activities that have the potential to introduce contaminants through the ground to the aquifer.

To ensure Kent's groundwater is protected, a **Wellhead Protection Program** was implemented in 1996 and updated in 2008. This program ensures our groundwater sources are regularly monitored to provide a high quality water supply. By monitoring how water flows underground and where potential sources of contaminants are located, we can be better prepared to respond in the event of an emergency or contamination.

Growth has the potential to impact groundwater resources by creating impervious surfaces which concentrate pollutants and decrease aquifer recharge rates. Growth also leads to additional pesticide and fertilizer use that could impact water quality and quantity. The City continues to review land use applications to ensure development will not have a negative impact on groundwater resources. New developments are being encouraged to maintain a no-net-loss in aquifer recharge.



For more information on the Wellhead Protection Program, call **253-856-5527**.

To report spills, water pollution, or contamination, call **253-856-5600**.

Integrated Pest Management (IPM) provides alternatives for farmers, golf course managers, parks departments, school districts, public works crews and homeowners to control nuisance plants and insects. Alternatives in IPM are provided to decrease environmental impacts and to help protect groundwater. For example, instead of spraying an entire playfield for weeds, spot spraying may be used to save money and reduce the amount of herbicide used.



Water system protection: cross connection control

The City of Kent implements an extensive cross connection control program to help ensure safe drinking water for its customers.

What is a cross connection?

A cross connection is a permanent or temporary piping arrangement that can allow the City's drinking water to be contaminated by a non-potable (not safe to drink) source if a backflow condition occurs.

What is backflow?

Backflow is water flowing in the opposite direction of its intended path. Backflow can allow contaminants to enter the drinking water system through cross connections.

Through an active cross-connection control program, the City of Kent isolates and eliminates hazards by requiring installation and testing of backflow prevention assemblies. A properly-installed and maintained backflow prevention assembly protects the water supply and the health and wellbeing of those who drink the water. Periodic testing ensures the assembly is working properly.

The following are examples of water uses for which the City of Kent requires backflow prevention:

- Wash basins and service sinks
- Hose bibs (garden hose faucets)
- Chemical sprayers attached to hoses
- Lawn irrigation systems
- Ornamental landscape ponds and fountains
- Auxiliary water supplies
- Laboratory and aspirator equipment
- Processing tanks
- Boilers
- Water recirculation systems
- Swimming pools
- Solar heat systems
- Fire sprinkler systems
- Hazardous chemicals or biological processes
- RV wastewater (blackwater) dumping stations

To learn more about cross connection control, backflow prevention or backflow assembly testing, call 253-856-5500 or visit KentWA.gov/city-hall/public-works/water-master-plan/cross-connection-control-program

Annual backflow assembly test reports can be submitted directly to us at backflow@KentWA.gov

For a list of Washington State Department of Health approved backflow assembly testers, visit GRCC.greenriver.edu/wacertservices/bat/bat_publiclist.asp



Water use efficiency goals

State law requires municipal water suppliers to use water more efficiently in exchange for water right certainty and flexibility to help meet future demand. The Legislature directed the Department of Health to adopt an enforceable Water Use Efficiency (WUE) program, which became effective on January 22, 2007.

Kent's Water Use Efficiency Program strives to reduce water used by public agencies (e.g., city facilities, schools, etc.) between June and August by 0.5 percent each year, with a total reduction goal of 3 percent over a six-year period. The program also aims to keep water loss at less than 6 percent per year (Municipal Water Law standard is 10 percent). Water loss (unaccounted-for water) is an inherent element of water system management which can never be eliminated entirely due to meter inaccuracies, water theft and undetected system leakage.

Results:

Water use for the period of June through August 2018 decreased 0.2 percent compared to the same period in 2017. Our emphasis was on outdoor water use which saw an increase of 6.8 percent over last year. 2018 was the driest June through August period in the last five years, with a total of only 1.7 inches of rain over the three-month period. Since the inception of this goal in 2007, overall water use for the period of June through August has decreased by 2.4 percent even as the number of services has increased by 2.2 percent. Dedicated irrigation accounts for government agencies have risen by 43.3 percent over this same time period. We will reevaluate this goal, as well as other potential water use efficiencies that can be incorporated, as part of our water system plan renewal that is currently underway.

The City met its goal of maintaining 6 percent or less lost water for the year, with a 5.8 percent distribution system leakage reported. The average lost water rate is 4.3 percent since 2007.

To view the entire 2018 Water Use Efficiency Report, visit our water utility page at **KentWA.gov**.



Water conservation

Water conservation measures are another tool in protecting our water supply. Not only do they conserve water, but they can also save money by reducing your water bill.

For tips on conserving water and protecting water quality please visit **KentWA.gov/EnvironmentalStewardship**.

Buying a new toilet? Make it a Water Sense model, and you may qualify for a \$50 rebate. Water Sense toilets use 20 percent less water than the current federal standard, while still providing equal or superior performance. To participate, you must be a City of Kent water customer and replacing a high-volume toilet that was installed before 1993. To find out more about this program, visit **KentWA.gov/EnvironmentalStewardship**. For a list of EPA Water Sense-certified toilets, visit **EPA.gov/watersense/residential-toilets**.

Save water and energy with a new, high-efficiency, Energy Star washer, and you may qualify for a \$75 rebate. To find out more about the program and if you qualify visit **KentWA.gov/EnvironmentalStewardship**. For a list of eligible washing machines, visit **Energystar.gov**.

Water conservation tips

To conserve water inside your home:

- Fix leaking faucets, pipes and toilets or replace them with water-saving devices.
- Wash only full loads of dishes or laundry.
- Do not use the toilet for food disposal.
- Take shorter showers.
- Don't let the water run while shaving or brushing teeth.

To conserve water outside your home:

- Install rain sensor on sprinkler control system.
- Water the lawn and garden in the morning or evening to avoid evaporation in hot weather. One inch of water a week is sufficient.
- Use mulch around plants and shrubs.
- Repair leaks in faucets and hoses, and use water-saving nozzles.
- Wash your car using water from a bucket, and save the hose for rinsing.

For more information call **258-856-5589**, or visit **WaterUseItWisely.com** or **EPA.gov/Watersense**



Building for today

Key accomplishments in 2018:

- Construction began on a back-up power generator system at our Kent Springs source and electrical improvements at a pump station on the West Hill of our service area. Construction will be complete in the spring of 2019.
- We are working with our consultant on renewing our water system plan for the next 10-year planning period. The plan should be finalized and adopted by the end of 2019.
- Construction began on a coating, structural and safety improvement project at our Cambridge Reservoir on the West Hill of our service area. Construction will be completed in summer 2019.
- We revised our Eastern Wellhead Protection Monitoring Plan to incorporate additional monitoring wells.
- We completed installation of 485 pressure-reducing valves needed on customers' water services located within a new pressure zone on the East Hill area of our water system.
- We completed design of a new pump station that will supply water to customers within a new pressure zone on the East Hill of our water system. Construction of the pump station began in February of 2019

- We updated the City's Cross Connection Control Code (Chapter 7.02). The new code reflects changes in state law, improvements in technology, and provides for a more well-defined and consistent enforcement mechanism.
- We cleaned and inspected two water reservoirs
- We installed 1,500 feet of eight-inch water main at various locations as part of our Shops Inc. program.
- We upgraded 14 fire hydrants in the water distribution system.

The Water Section continues implementation of a system-wide water main cleaning, unidirectional flushing, valve exercise and water service line/water main replacement program, as well as other related maintenance to improve water quality and system reliability.



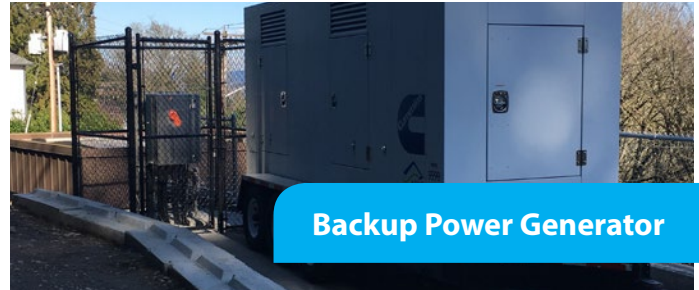
Large Meter Replacement



Planning for tomorrow

The next few years will bring many new system improvement projects:

- Continued work with our consultant on our water system plan renewal for the next 10-year planning period
- Coating and structural improvements for a water storage tank on the Kent East Hill
- Permitting and construction of an additional water storage tank on the West Hill of Kent
- An electrical system upgrade and automated back-up power transfer switch at a booster station providing water to the West Hill of our water system
- Continued pumping and piping improvements to increase water pressure in our upper 590 Pressure Zone on the East Hill for a new pressure zone
- Water main and fire hydrant replacements
- Interior cleaning and inspection of water storage reservoirs and coating improvements
- Design/installation of backup emergency power supply for our water sources
- Design/implementation of Habitat Conservation Measures for our Clark Springs source



Backup Power Generator



City Crew's Water Main Installation



Monitoring Results

Thousands of water samples were taken in 2018 to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows those contaminants that were detected in the water. Because the concentrations of certain substances do not change frequently, the state requires us to monitor for these substances less often than once per year. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

SUBSTANCE	MCL (Maximum amount allowed)	MCLG (ideal amount or less)	Maximum Result	Sample Range	MCL Violation	Major Sources
REGULATED AT THE SOURCE						
Nitrate	10 ppm	10 ppm	1.6 ppm	0.55-1.6 ppm	No	Runoff from fertilizer use, leaching from septic tanks & sewage, erosion of natural deposits
Radium 228	5 pCi/L	0	0.484 pCi/L	0-0.484 pCi/L	No	Erosion of natural deposits
Gross Alpha Particles	15 pCi/L	0	<0.426 pCi/L	<0.426 pCi/L	No	Decay of natural and man-made deposits
Arsenic	10 ppb	0	1.3 ppb	0-1.3 ppb	No	Erosion of natural deposits
UNREGULATED AT THE SOURCE						
Sodium	Not regulated	Not regulated	21 ppm	8-21 ppm	Not regulated	Erosion of natural deposits
Calcium	Not regulated	Not regulated	25 ppm	5.4-25 ppm	Not regulated	Erosion of natural deposits
Magnesium	Not regulated	Not regulated	15 ppm	0.88-15 ppm	Not regulated	Erosion of natural deposits
TOC (Total Organic Carbon)	Not regulated	Not regulated	2.5 ppm**	<0.2-2.5 ppm	Not regulated	Organic compounds in surface water
Hardness	Not regulated	Not regulated	136 ppm	10-136 ppm	Not regulated	Erosion of natural deposits
REGULATED IN THE DISTRIBUTION SYSTEM						
Haloacetic Acids (HAAs)	60 ppb	na	6.5 ppb	<1.0-6.5 ppb	No	By-product of drinking water disinfection
TTHMs (Total Trihalomethanes)	80 ppb	na	16.7 ppb	2.6-16.7 ppb	No	By-product of drinking water disinfection
Chlorine	MRDLG=4	na	1.42 ppm	0.35-1.42 ppm	No	Water additive used as an industry-wide treatment method to control microbes.
REGULATED (Secondary) AT THE SOURCE Substances not considered a risk to human health but can affect aesthetics, such as taste, color, and odor. Results above the SMCL are not considered to be a violation.						
Iron	SMCL=0.300 ppm	na	0.006 ppm	0-0.006 ppm	No	Erosion of natural deposits
Manganese	SMCL=0.050 ppm	na	0.069 ppm	0-0.069 ppm	No	Erosion of natural deposits
DOH (State) REGULATED						
Fluoride	4.00 ppm	2.00 ppm	0.88 ppm	0.55-0.88 ppm	No	Erosion of natural deposits, water additive which promotes strong teeth
Turbidity	Not regulated	Not regulated	0.80 NTU	0.03-0.80 NTU	No	Soil runoff/pipe sediments & minerals
MICROBIAL STANDARDS IN DISTRIBUTION SYSTEM						
Total Coliform	<5% positive	0	0	0 of 934 samples	No	Sampling technique, coliforms are naturally present in the environment

**Tacoma Supply

Table Definitions:

MCL (Maximum Contaminant Level): Highest level of a substance thats allowed in drinking water.

MCLG (Maximum Contaminant Level Goal): The level of a substance in drinking water below which there is no known or expected risk to health.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water.

NA: Not applicable.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water.

pCi/L (Picocuries per Liter): Unit of measurement used for radiological contaminants.

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): The level above which a substance may affect taste, color and odor but is not considered a risk to human health. Results above this level are not considered a regulatory violation.



Unregulated Contaminant Monitoring Regulation

Fourth Cycle (UCMR4)

Unregulated contaminants are those that do not yet have a drinking water standard set by the EPA. The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should have a standard. In 2018, the City of Kent sampled for 30 different contaminants as required by the EPA and found low levels of four compounds present in our drinking water. The contaminants and their concentration are listed below. For more information, contact the EPA's Safe Drinking Water Hotline at **1-800-426-4791**.

Substance	Unit	Year Sampled	MCL	MCLG	Maximum Result	Sample Range	Compliance
Manganese	ppm	2018	0.05 ppm	na	0.044 ppm	0.0004 to 0.044 ppm	Yes
	Major Sources: Erosion of natural deposits						
Haloacetic Acids							
HAA5	ppb	2018	60 ppb	na	15 ppb	2.1 to 15 ppb	Yes
	Major Sources: By-product of drinking water disinfection						
HAA9	ppb	2018	Not regulated	na	17 ppb	3.1 to 17 ppb	na
	Major Sources: By-product of drinking water disinfection						
HAA6Br	ppb	2018	Not regulated	na	3.6 ppb	0.46 to 3.6 ppb	na
	Major Sources: By-product of drinking water disinfection						

Table Definitions:

MCL (Maximum Contaminant Level): The highest level of a substance that is allowed in drinking water.

MCLG (Maximum Contaminant Level Goal): The level of a substance in drinking water below which there is no known or expected risk to health.

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

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

na: Not applicable.



Lead and copper monitoring

To reduce the risk of lead and copper exposure, the City water system utilizes a corrosion control program that adjusts pH levels to reduce the corrosiveness of the drinking water. The drinking water system is monitored continuously through water quality analyzers and tested daily to maintain a non-corrosive pH level. In September 2018, the City sampled the lead and copper levels in 45 homes throughout our water system. The results of this sampling showed our corrosion control efforts are working. All sample results showed lead and copper levels were well below the EPA regulatory action levels.

These samples are collected every three years as required by the Department of Health. Another round of sampling will occur in 2021.

Substance	Unit	Year Sampled	AL	MCLG	Amount Detected (90%)	Number of Homes Above AL	Compliance
Copper	ppm	2018	1.3 ppm	1.3 ppm	0.12 ppm	0	Yes
	Major Sources: Corrosion of household plumbing systems, erosion of natural deposits						
Lead	ppm	2018	0.015 ppm	0	<0.001 ppm	0	Yes
	Major Sources: Corrosion of household plumbing systems, erosion of natural deposits						

Table Definitions:

AL (Action Level): The concentration of a substance which triggers treatment or other requirements which a water system must follow

MCLG (Maximum Contaminant Level Goal): The level of a substance in drinking water below which there is no known or expected risk to health

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

Lead: In Washington State, lead in drinking water comes primarily from materials and components used in household plumbing. Your water may contain more dissolved metals, such as lead, the longer the water remains in your homes plumbing. Elevated levels of lead can cause serious health problems, especially in pregnant women and young children.

Reduce potential exposure to lead: For water taps that have not been used for six hours or more, flush water through the tap until the water is noticeably colder before using for drinking or cooking. Use the flushed water for watering plants, washing dishes or general cleaning. Only use water from the cold-water tap for drinking, cooking and 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 the **EPA's Safe Drinking Water Hotline at 1-800-426-4791** or online at **EPA.gov/safewater/lead**.



Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. People with compromised immune systems such as people with cancer, patients undergoing chemotherapy, organ transplant recipients, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at-risk for 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 by calling the EPS's Safe Drinking Water Hotline at 1-800-426-4791.

Substances that may be present in drinking water include:

- Microbial contaminants, such as viruses and bacteria, from septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, from agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. They can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. Radon is a radioactive gas that you cannot see, taste or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation.



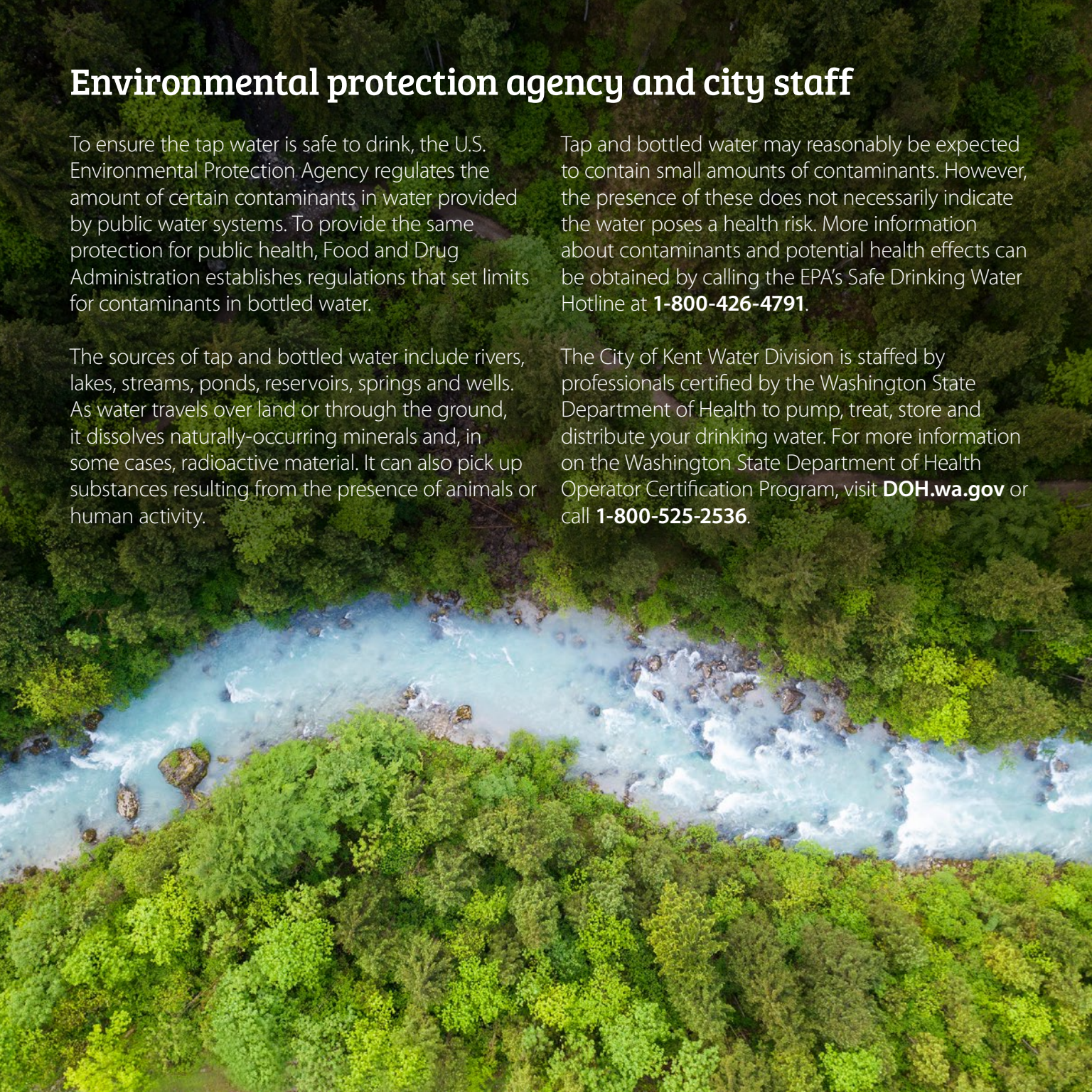
Environmental protection agency and city staff

To ensure the tap water is safe to drink, the U.S. Environmental Protection Agency regulates the amount of certain contaminants in water provided by public water systems. To provide the same protection for public health, Food and Drug Administration establishes regulations that set limits for contaminants in bottled water.

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

Tap and bottled water may reasonably be expected to contain small amounts of contaminants. However, the presence of these does not necessarily indicate the 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 at **1-800-426-4791**.

The City of Kent Water Division is staffed by professionals certified by the Washington State Department of Health to pump, treat, store and distribute your drinking water. For more information on the Washington State Department of Health Operator Certification Program, visit **DOH.wa.gov** or call **1-800-525-2536**.





For more information

Public Works Water Utility

253-856-5600 • 7:30 a.m. – 4 p.m. weekdays

(For emergencies or general water questions including quality, leaks or pressure)

During non-working hours, emergency calls are answered by staff who will contact a water utility employee.

For non-emergencies that can wait until the next business day, visit **KentWA.gov** and make a "request for service". A water utility employee will contact you the next business day.

City Administration

City Council 253-856-5712
Mayor's Office 253-856-5700

Utility Billing

Questions, shutoffs 253-856-5200

Permit Center

Plumbing/Permits 253-856-5300
Water Meter Permits 253-856-5300
Planning Services 253-856-5454

Spill Hotlines

City of Kent,
Public Works Operations 253-856-5600

EPA Hotlines

Safe Drinking Water 1-800-426-4791
Radon 1-800-SOS-RADON
EPA.gov/safewater or Waterwiser.org

WA State Dept. of Health, Division of Drinking Water

NW Operations 253-395-6750
Doh.wa.gov/ehp/dw

Kent City Council Meetings 253-856-5712

The Council typically meets on the first and third Tuesdays of each month at 7 p.m. Meetings are held in the Council Chambers of Kent City Hall, 220 Fourth Avenue South, Kent, WA 98032. Please feel free to participate—your input is always welcome!

Public Works Committee 253-856-5500

City Council Public Works Committee meetings are held on the first and third Mondays of every month at 4 p.m.

Kent's Lifeline Program 253-856-5200

Seniors, low income or disabled residents may qualify for Kent's Lifeline Program. The City of Kent offers reduced utility rates for those in need.



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