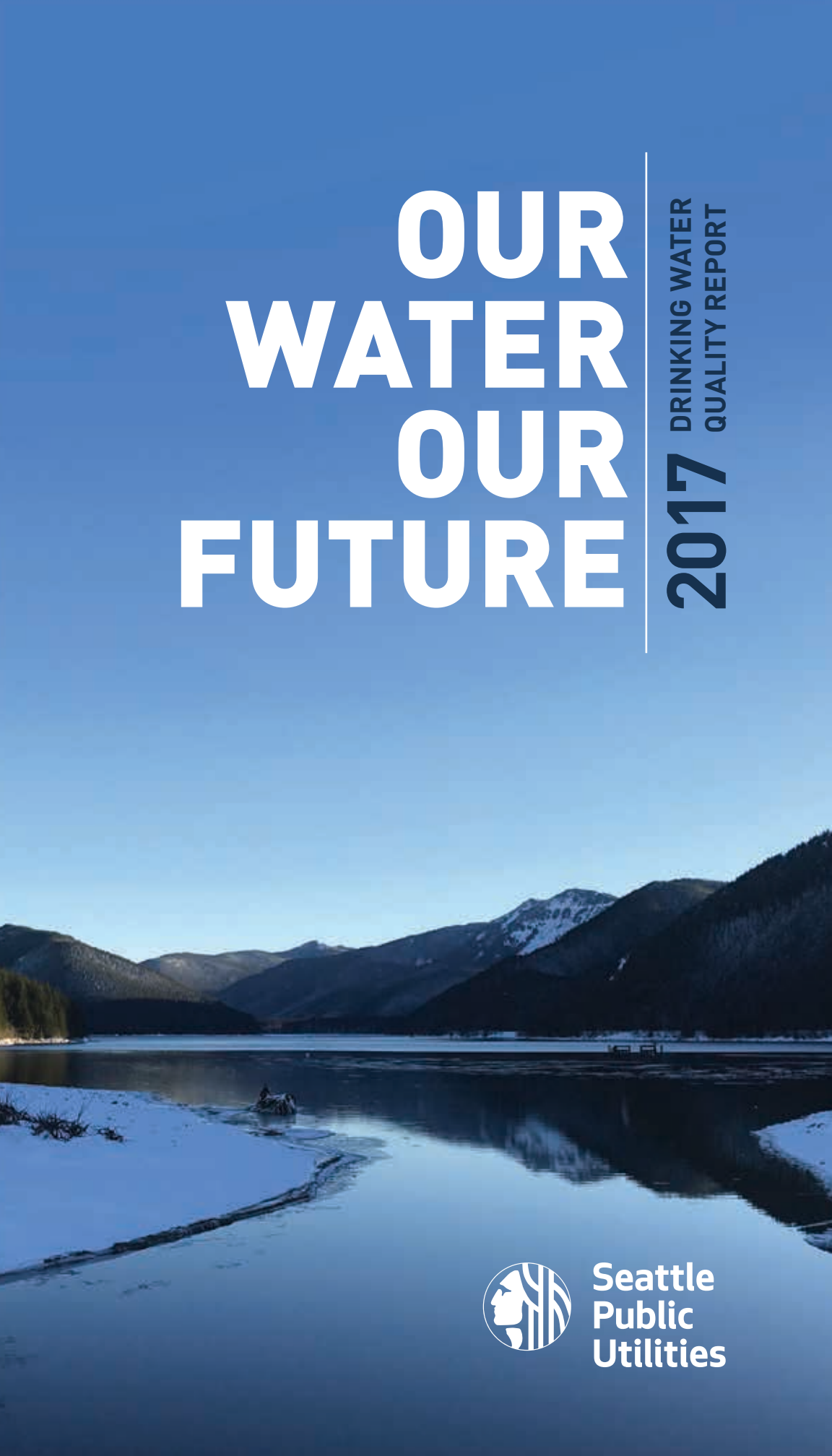
OUR WATER OUR FUTURE

2017 DRINKING WATER QUALITY REPORT



Seattle Public Utilities

A Letter from the General Manager/CEO

Dear Customer,

Water is essential to life, and every community should be able to rely on the safety, high quality, and affordability of the water they use every day. Seattle is fortunate to have some of the best water in the nation, sourced from protected watersheds high in the Cascade Mountains, and it is Seattle Public Utilities' (SPU) job to take care of it.

In addition to important facts about our water quality, this year's Drinking Water Quality Report contains information that demonstrates SPU's commitment to stewarding this essential resource and ensuring that Seattle residents can depend on water quality and reliability now and into the future.

This report also highlights ways SPU partners with customers and communities. As we work to become a more community-centered utility, we recognize the vital role that our community plays in protecting our water resources and ensuring we deliver our services in equitable and inclusive ways. Our work makes a difference in people's lives, and we look forward to doing even more to address challenges and community values through collaboration and partnership.

I hope the information in this report helps you connect to this valuable resource that we all share.

Sincerely,

Mami Hara

Mami Hara
General Manager/CEO
Seattle Public Utilities

Pristine & Protected

It all starts with our watersheds. Seattle's drinking water comes from two large protected watersheds in the Cascade Mountains. In 2017, about 63 percent of Seattle's drinking water came from the Cedar River Watershed and 37 percent came from the South Fork of the Tolt River Watershed. The system also occasionally gets water from wells located in Burien, which can be used to meet peak summer demand. These wells were not used in 2017.

We refer to these watersheds as protected because they are owned or controlled by the City of Seattle and the U.S. Forest Service and closed to unsupervised public access. SPU makes sure the 100,000+ acres that make up these two watersheds are free of agricultural, industrial and recreational activities, and are safeguarded from fire, toxic spills, invasive species and human disturbance. **Seattle is one of only a handful of U.S. cities with such pristine, protected watersheds.**

Cedar Falls in the Cedar River Watershed

While the watersheds are closed to public access, the Cedar River Watershed Education Center on Rattlesnake Lake in North Bend provides guided tours, exhibits and events to connect people to the source of Seattle's drinking water and its unique cultural and natural history. School field trips, educational events, volunteer opportunities and family programs bring the watershed to life. Learn more or visit us: **seattle.gov/util/crwec.**

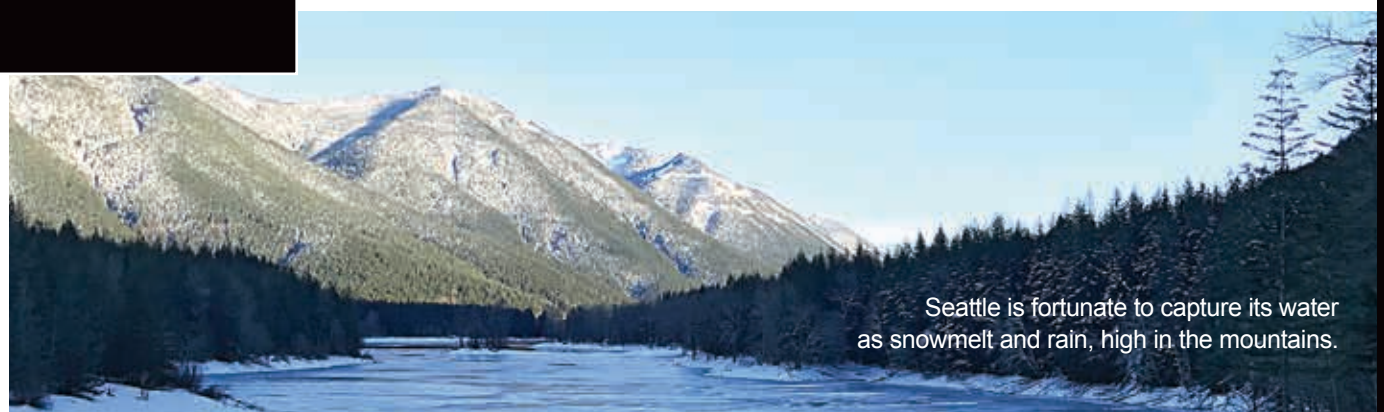
WATERSHED TOURS

The Cedar River Watershed Education Center is only 35 miles east of Seattle, at beautiful Rattlesnake Lake. The Center is open year-round, Tuesday-Sunday from 10am to 5pm. Visiting the Center is free.

Guided tours of the Watershed are available July – September. ($10 adults; $5 youth & seniors ages 55 and older.)

$5 OFF EACH TICKET

CEDAR RIVER WATERSHED EDUCATION TOUR
Register and redeem at: **seattle.gov/util/crwec**
Click on "Programs and Tours" PROMO CODE: WATER
Valid July-September 2018.



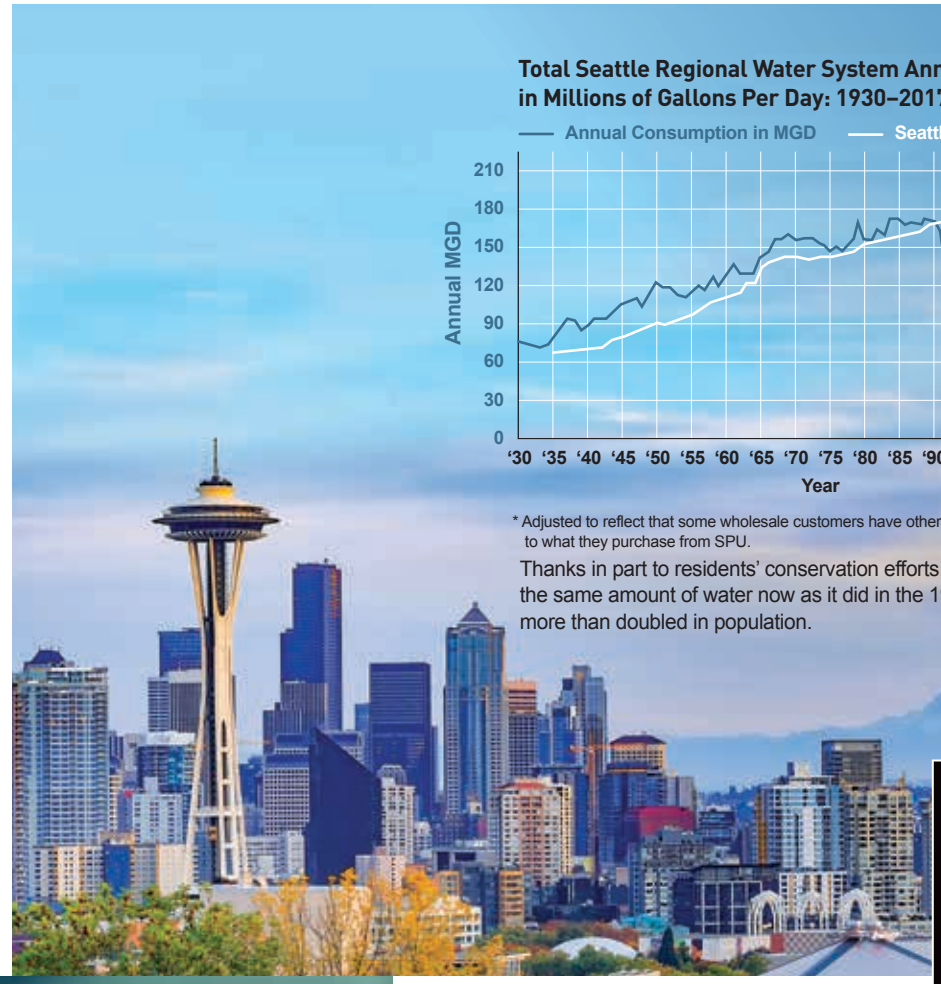
Seattle is fortunate to capture its water as snowmelt and rain, high in the mountains.

Forward-Thinking

Population growth, climate change and aging infrastructure affect current and future water demands and delivery. To ensure the dependability of our water, Seattle must continue to make strategic investments in its drinking water system, which serves approximately 1.4 million customers throughout the Puget Sound region.

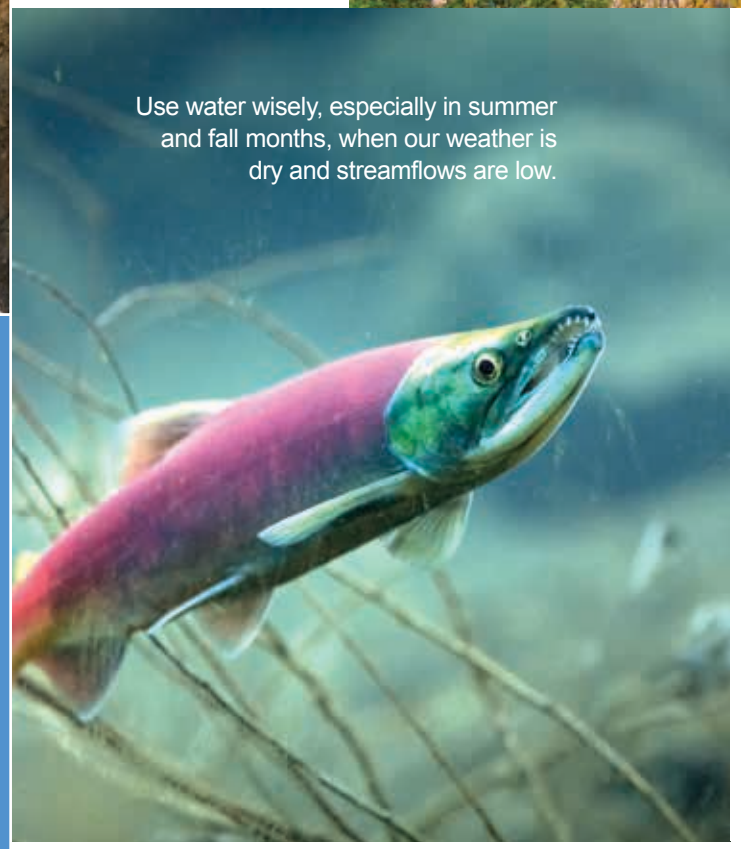
We have two protected watersheds, state-of-the-art treatment facilities, covered water storage facilities, and enough capacity to meet our needs today and into the future. Yet, like many important utility services, the infrastructure is complex and must be carefully planned and managed–from the mountain watersheds where it originates to the taps where it is used. The 2019 Water System Plan describes how the utility will go about meeting demand while ensuring quality and how to efficiently maintain the water system. **seattle.gov/util/watersystemplan**

SPU produced 45.2 billion gallons of treated drinking water in 2017, of which, 2 billion gallons were lost to leakage. Our leakage rate is 4.3 percent, which meets State regulations and is considered relatively low. SPU is working to keep leakage to a minimum, and prevent future water system leaks, by expanding maintenance programs and investing in infrastructure repairs.



Conserving Can Save You $

SPU offers $100 rebates on high-efficiency toilets that save water and help keep your utility bills low. Income-qualified homeowners may be eligible for a free toilet and installation. Learn more by calling **206-615-1282**.



Conservation-Focused

Water conservation is important for us, our environment and future generations.

- Water conservation helps protect an important, shared natural resource. It keeps more water in our rivers for salmon, wildlife, and other environmental needs.
- Water conservation stretches our valuable water supply to meet the needs of our growing region, ensuring we'll have enough water for future generations.
- Using water efficiently can help customers keep water and sewer bills as low as possible.

To encourage efficient water use, the Saving Water Partnership (SWP)–SPU and 18 water utility partners–set a six-year conservation goal: reduce per capita use from current levels so that the SWP's total average annual retail water use is less than 105 million gallons per day (mgd) from 2013 through 2018 despite forecasted population growth. In 2017, our customers met this goal, using 96.6 mgd.

Visit the Saving Water Partnership for more information on rebates, conservation tips, videos on fixing leaks and natural yard care, and more. Go to **savingwater.org.**

Reliable

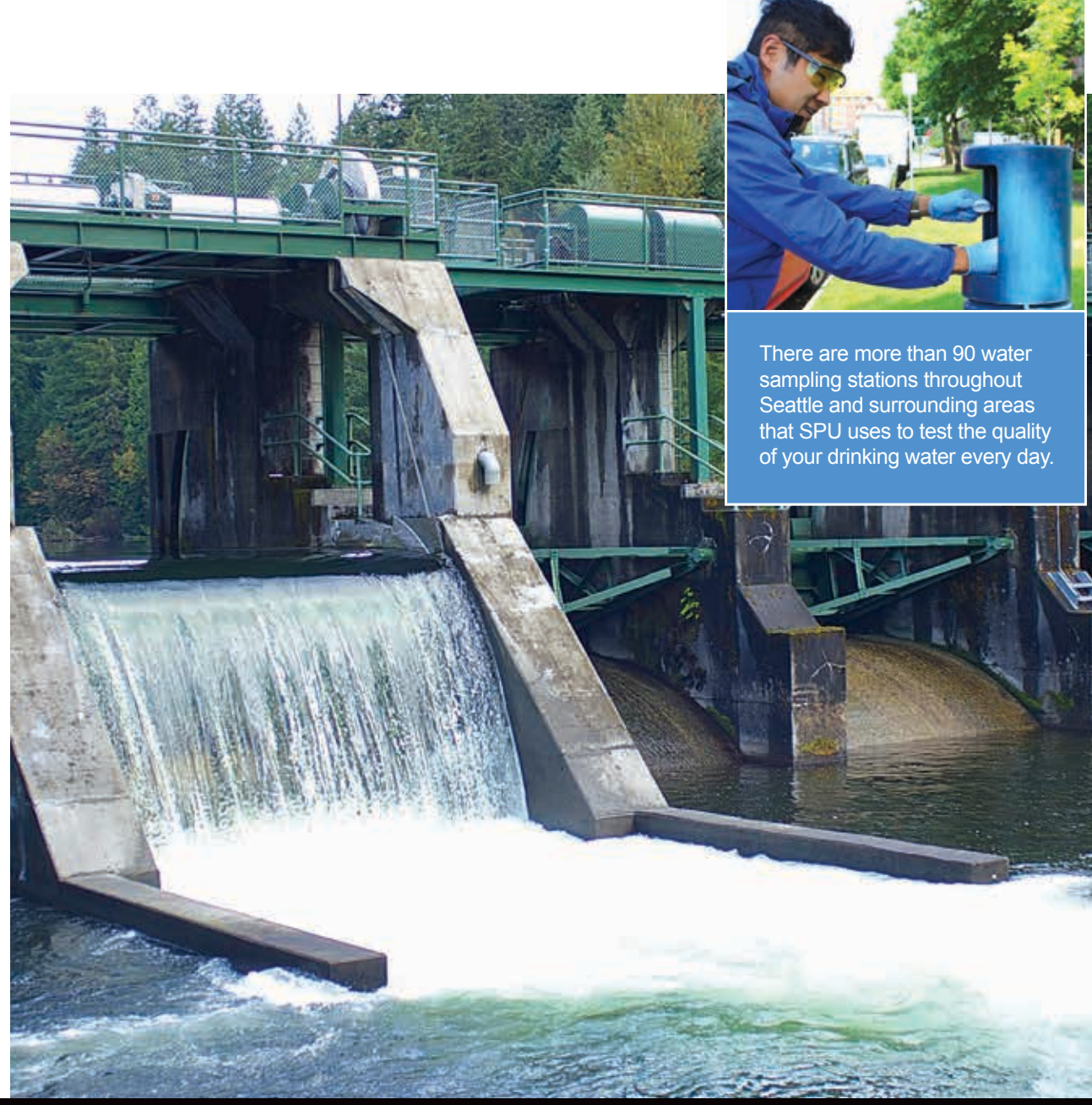
You can count on SPU's people, plants, and pipes to deliver drinking water.

- Water travels from the Cedar and Tolt watersheds to two plants that treat and test the water to make sure it's safe. Because our source water is protected and pristine, we don't have to do much treatment to meet the same water quality regulations, compared to other cities.
- Water then travels through about 1,800+ miles of water pipes. We conduct regular maintenance to prevent leaks and breaks.
- Your water is monitored 24 hours a day, seven days a week, by people responding to water main breaks, service outages, and other issues.
- Water is stored in covered reservoirs. These are located throughout the city and protected from contamination.

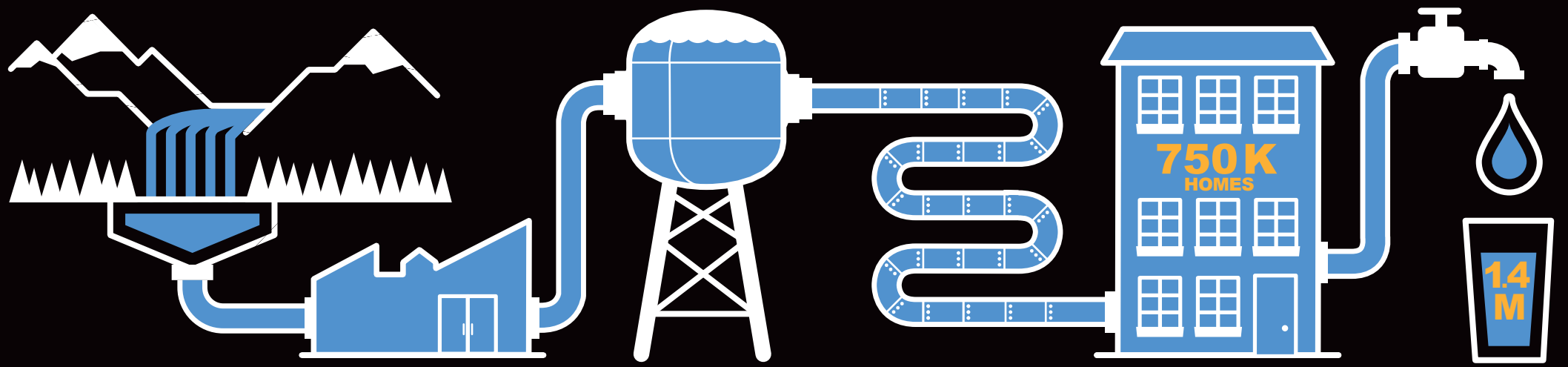
Safe

Seattle's drinking water surpasses all federal and state drinking water standards.

SPU tests and treats your water every day. The expert testing and engineering staff at our water quality laboratory is committed to keeping your water clean. We test samples from the region between 10 and 100 times per day. Key points within the water system are monitored 24/7.



There are more than 90 water sampling stations throughout Seattle and surrounding areas that SPU uses to test the quality of your drinking water every day.



5 Reasons Why Seattle's Drinking Water is

BETTER THAN BOTTLED

1. Protected and Safe

Because SPU owns and manages both of its watersheds, we have unique control of the protection and quality of our water. This keeps our drinking water supply safe.

Tap water is carefully regulated by federal and state health agencies. To ensure the safety of our drinking water, SPU's water quality lab tests an average of 50 samples per day, 365 days a year.

2. Fresh and Pristine

Many cities source their drinking water from local rivers–the same rivers that are used for recreation, industry, and commerce. Seattle's water is different. We capture our water as rain and melted snow in forested mountain watersheds. We have one of the purest water supplies in the nation.

3. Affordable

Bottled water can be up to 1,000 times more expensive than tap water. Seattle's drinking water costs less than a penny per gallon. The average cost of a gallon of bottled water is around $1.25. That can add up fast!

4. Tastes Great

We provide just enough treatment to keep your drinking water safe, clean, and tasting good. We even have a taste test panel that meets twice a month to taste and evaluate our drinking water.

5. Better for the Environment

It takes more than twice as much water to produce a plastic water bottle than it does to fill it. And only about 20 percent of those bottles get recycled. The rest end up in landfills or floating in our waterways and will take hundreds of years each to decompose.

Community-Centered

Everyone should be able to rely on the safety, high quality, and affordability of the water they use every day. As a community-centered utility, SPU believes that partnerships with the community are vital. Community partners help us use water wisely, teach us about the needs of those we serve, partner with us to deliver services in ways that reflect community values, and share the message that Seattle has some of the best drinking water in the nation.

Education

SPU's education programs teach children about the importance of protecting and conserving water. Children are critical 'ambassadors,' sharing important information with friends, family, and community.

Outreach

SPU outreach staff regularly meet with community members to discuss upcoming water service repairs and improvement projects. Listening to customers is a top priority.

Partnerships

SPU partners with Seattle Department of Neighborhoods' Community Liaisons on outreach activities such as tours of the Water Quality Lab. Tours like these are a great opportunity for community members to learn how SPU carefully manages and monitors their drinking water.

Community Connections

As part of SPU's Community Connections program, Sophorn Sim, a local community leader with ECOSS, brings groups from Seattle's immigrant communities to visit the Cedar River Watershed to see up close where their drinking water comes from.

"We must work together to build a more inclusive and just Seattle. As part of that work, our City must do more to reach out to and lift up underserved communities, so that everyone in Seattle has the tools and information they need to take advantage of the resources our City provides–like safe, high-quality drinking water. As a City, we will continue to work with community advocates and families to share information in ways that are culturally appropriate, meaningful, and inclusive."

- Mayor Jenny A. Durkan

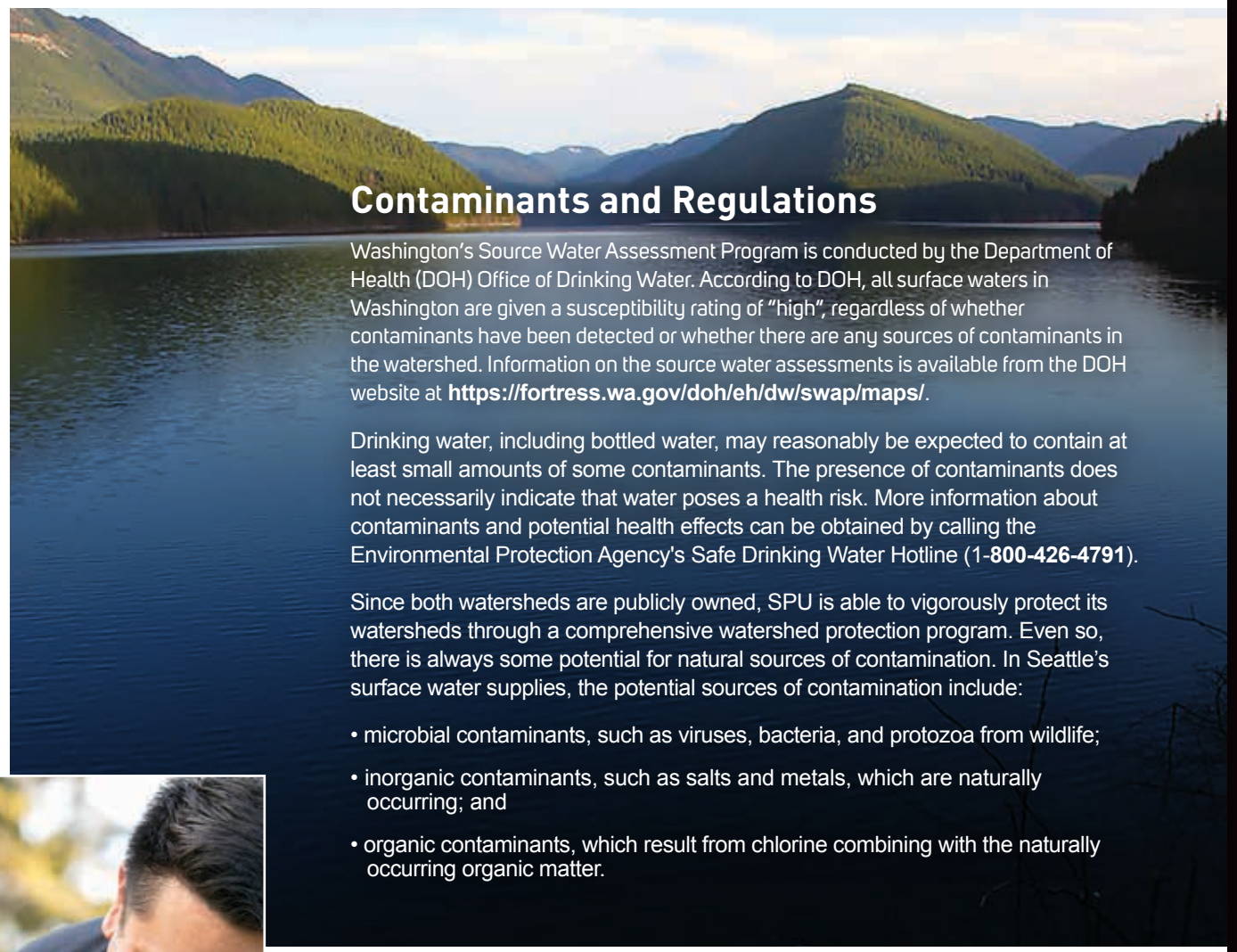
Ensuring Safe Tap Water

To ensure that tap water is safe to drink, the Environmental Protection Agency and/or the Washington State Department of Health prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration and/or the Washington State Department of Agriculture regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking Water Sources

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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Water taste test panel



Contaminants and Regulations

Washington's Source Water Assessment Program is conducted by the Department of Health (DOH) Office of Drinking Water. According to DOH, all surface waters in Washington are given a susceptibility rating of "high", regardless of whether contaminants have been detected or whether there are any sources of contaminants in the watershed. Information on the source water assessments is available from the DOH website at **https://fortress.wa.gov/doh/eh/dw/swap/maps/**.

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 Environmental Protection Agency's Safe Drinking Water Hotline (1-**800-426-4791**).

Since both watersheds are publicly owned, SPU is able to vigorously protect its watersheds through a comprehensive watershed protection program. Even so, there is always some potential for natural sources of contamination. In Seattle's surface water supplies, the potential sources of contamination include:

- microbial contaminants, such as viruses, bacteria, and protozoa from wildlife;
- inorganic contaminants, such as salts and metals, which are naturally occurring; and
- organic contaminants, which result from chlorine combining with the naturally occurring organic matter.

Special Health Needs

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. Environmental Protection Agency/Centers for Disease Control 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**).

Monitoring Results

The results of monitoring in 2017 are shown on the following page. These results are for parameters regulated by the federal and state agencies. For other water quality information, please check our web site or call **206-615-0827**. We can also send you a list of the more than 200 compounds for which we tested but did not find in our surface water supplies, including unregulated contaminants.

2017 Water Quality Results

Water quality monitoring data can be difficult to interpret. To make all the information fit in one table, we used many acronyms that are defined below the table. In Seattle, if you live south of Green Lake, your water probably comes from the Cedar. Areas north of Green Lake usually receive Tolt water. Each source can provide water to other areas in Seattle if needed.

		EPA'S ALLOWABLE LIMITS		LEVELS IN CEDAR WATER		LEVELS IN TOLT WATER			
Detected Compounds	**Units**	**MCLG**	**MCL**	**Average**	**Range**	**Average**	**Range**	**Typical Sources**	**Success**
RAW WATER									
Total Organic Carbon	ppm	NA	TT	0.8	0.3 to 1.5	1.2	1.1 to 1.3	Naturally present in the environment	✓
FINISHED WATER									
Turbidity	NTU	NA	TT	0.3	0.2 to 2.5	0.04	0.01 to 0.20	Soil runoff	✓
Arsenic	ppb	0	10	0.5	0.4 to 0.6	0.4	0.3 to 0.5	Erosion of natural deposits	✓
Barium	ppb	2000	2000	1.7	1.4 to 1.9	1.4	1.1 to 1.7	Erosion of natural deposits	✓
Bromate	ppb	0	10	0.04	ND to 1	0.25	ND to 2	By-product of drinking water disinfection	✓
Chromium	ppb	100	100	0.27	0.25 to 0.33	0.2	ND to 0.24	Erosion of natural deposits	✓
Fluoride	ppm	4	4	0.7	0.3 to 0.9	0.7	0.6 to 0.8	Water additive, which promotes strong teeth	✓
Total Trihalomethanes	ppb	NA	80	35	20 to 46	37	23 to 42	By-products of drinking water chlorination	✓
Haloacetic Acids(5)	ppb	NA	60	44	16 to 85	43	26 to 49	By-products of drinking water chlorination	✓
Chlorine	ppm	MRDLG = 4	MRDL = 4	Average = 0.99		Range = 0 to 1.5		Water additive used to control microbes	✓

Note: Cryptosporidium was not detected in any samples from the Tolt or Cedar supplies (3 samples each).

DEFINITIONS

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.

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.

TT: Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

NTU: Nephelometric Turbidity Unit - Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2017 was 5 NTU, and for the Tolt it was 0.3 NTU for at least 95% of the samples in a month. 100% of the Tolt samples for 2017 were below 0.3 NTU.

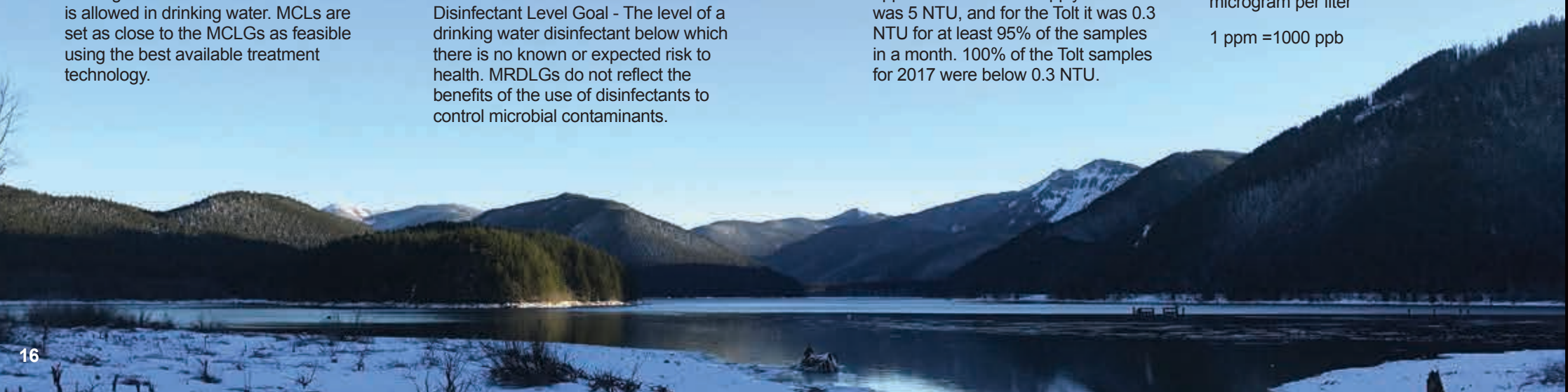
NA: Not Applicable

ND: Not Detected

ppm: 1 part per million = 1 mg/L = 1 milligram per liter

ppb: 1 part per billion = 1 ug/L = 1 microgram per liter

1 ppm =1000 ppb



Lead and Copper Monitoring Results

Parameter and Units	MCLG	Action Level+	2016 Results* **	Homes Exceeding Action Level	Source
Lead, ppb	0	15	3	2 of 50	Corrosion of household plumbing systems
Copper, ppm	1.3	1.3	0.10	0 of 50	

* While SPU monitors water chemistry continuously for corrosion control, residential lead and copper compliance samples are collected on a 3-year cycle.

** 90th Percentile: i.e. 90 percent of the samples were less than the values shown.

+ The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Although there is no detectable lead in our source water, tests show there are sometimes elevated levels of lead and copper in some samples, primarily because of corrosion of household plumbing systems. These results show that it is very important that homeowners, business owners and others be aware of their type of plumbing, and how the plumbing affects their drinking water quality.

Where you live, when your plumbing was installed and what type of plumbing you have, all play a part in determining your potential exposure level. SPU treats the water to minimize the tendency for lead to enter the water, and results show that we have been very successful at this.

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 six 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 **epa.gov/safewater/lead**.

Finally, remember that drinking water is only a minor contributor to overall exposure to lead. Other sources, including paint, soil, and food, also contribute.

For more information about your water, contact:

Seattle Public Utilities
206-684-3000
seattle.gov/util/waterqualityreport

Seattle Public Utilities

Seattle Public Utilities
700 Fifth Avenue, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

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Seattle water is clean, safe and costs less than a penny a gallon.
For translation services please call 206-684-3000.

El agua de Seattle es limpio, seguro, y cuesta menos de un penny por un galón.
Para servicios de traducción favor llamar al 206-684-3000.

Nước Seattle sạch, an toàn, và có chi phí chưa đến một xu một ga-lông.
Để nhận các dịch vụ dịch thuật, vui lòng gọi số 206-684-3000.

西雅图的水纯净、安全，每加仑的价格不到1美分。
如需翻译服务，请拨打206-684-3000。

西雅圖的水純淨、安全，每加侖的價格不到1美分。
如需翻譯服務，請撥打 206-684-3000。

Biyaha Seattle waa kuwo nadiif ah, ammaan ah, oona qiimahoodu yahay wax ka yar shillin halkii jirgaan ama caag. Si aad u heshid adeego turjubaan fadlan wac 206-684-3000.

Ang tubig sa Seattle ay malinis, ligtas, at mas mura sa isang penny kada galon.
Para sa mga serbisyo ng pagsasalin-wika, mangyari lang tumawag sa 206-684-3000.

시애틀 물은 깨끗하고 안전하며 1갤런당 1페니보다 적은 가격을 갖고 있습니다.
번역 서비스를 원하시면 206-684-3000로 전화 연락하시기 바랍니다.

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