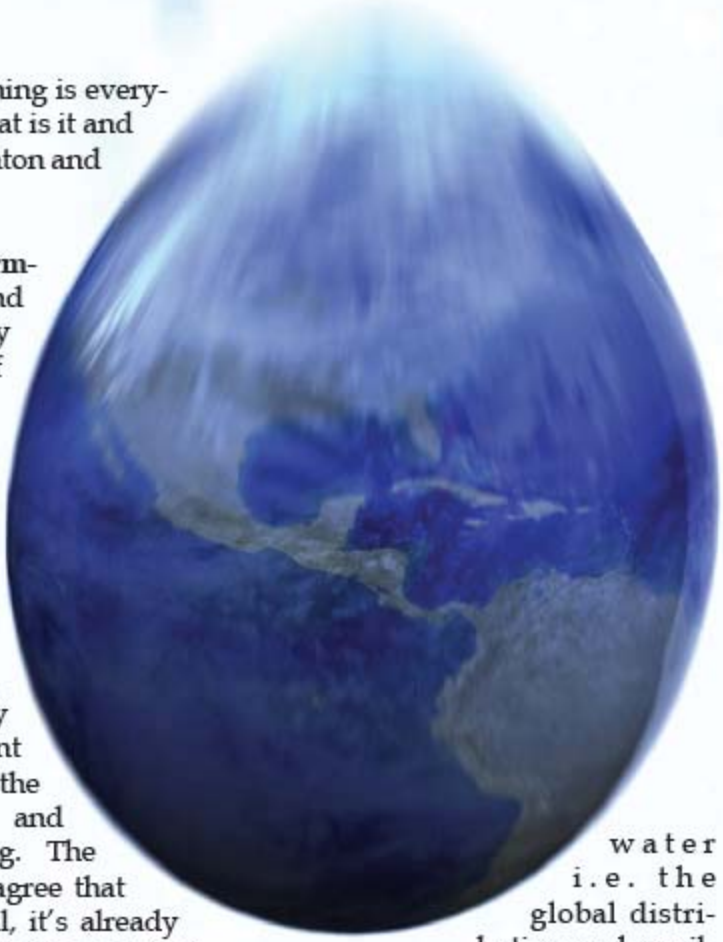
Drinking Water Quality Report

As The World Warms

Talk of global warming is everywhere these days—what is it and how might it affect Renton and its water?



What is global warming. Carbon dioxide and other gases naturally warm the surface of the Earth by trapping solar heat in the atmosphere. This is a good thing because it keeps our planet habitable. However, by burning fossil fuels such as coal, gas and oil and clearing forests we have dramatically increased the amount of carbon dioxide in the Earth's atmosphere and temperatures are rising. The majority of scientists agree that global warming is real, it's already happening and that it is the result of our activities and not a natural occurrence. (EPA "State of Knowledge", epa.gov/climatechange; Washington State Department of Ecology: ecy.wa.gov/climatechange). Addressing these and other areas of scientific uncertainty is a major priority of the U.S. Climate Change Science Program.

It is predicted that the consequences of this warming will result in changes in the amount of water in the atmosphere and the transport of that water i.e. the global distribution and availability of water in the future will be different than it is today. Exactly how water will be redistributed is still a topic of debate, but it is generally agreed that a warmer world will have direct consequences for surface runoff and groundwater recharge. Locally, it is anticipated that warmer temperatures will melt snow in the Cascades and the water that is normally stored as snow could be reduced by 30 to 70 percent. Such a reduction in mountain snow would lead to increased fall and winter flooding, accompanied by spring and summer drought.

How does this affect Renton. Although summer droughts have not been as immediately evident in Renton's groundwater source as in local river sources, our aquifer is part of the Lake Washington/ Cedar/ Sammamish Watershed . This system of the rivers, lakes, streams and aquifers is referred to as a water resources inventory area (WRIA 8). All the components are interrelated and will, ultimately, share the same fate. Consequently, all water customers must be mindful of this interconnectedness and work together.

Living within our means. The first step in making sure that we are not "overspending" our water account is to look at consumption. Renton's water use during the summer months typically increases from 50 percent to 100 percent of the usage during the rest of the year. This dramatic increase in summer water

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AHEAD OF THE CURVE

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usage is largely attributable to outdoor watering. The hotter, and drier it is, the more water people use. This increased usage is called "peak demand" and is where a water system will first feel the pinch. The impact of this "peak demand" not only strains the water resources but also strains the water system's infrastructure—i.e. the pipes and pumps necessary to move the water around. The "Basic Monthly" charge that you pay on your water bill is used largely to cover the costs of building and maintaining this infrastructure.

Avoiding that pinching feeling. If your waistband starts to feel a little tight you could: spend money and buy a bigger pair of pants; or you could look at your diet and maybe start eating more salads and fewer burgers. Alleviating the summer "peak demand" water pinch requires similar types of solutions. There is always the option of building bigger infrastructure—more pipe, pumps and reservoirs— this of course, costs a lot of money, assuming of course, you have the water to put through those pipes. Conservation is a kind of water diet—saving water instead of calories. Conservation saves water all year and once the consumer has developed "water saving habits" it becomes routine. Another option that provides significant long term water savings—especially as our summers get warmer and drier—is to follow the **Five Steps of Natural Yard Care.** The Five Steps to Natural Yard Care system builds in water savings, reduced fertilizer and pesticide needs from the soil up. Instituting this system in your yard will allow you to have an enjoyable yard that sips rather than chugs water; avoid increased water bills; leave water in the Lake Washington/ Cedar/Sammamish Watershed for salmon and to share with the rest of the communities that are dependent on it.

Five Steps to a Better Renton

By working with nature in your yard, you can have a great looking and enjoyable landscape that's easier to care for and healthier for your family, pets, wildlife and our whole watershed. The Five Steps to Natural Yard Care developed by King County provide a great greenprint for saving time, money, work and water in your yard. To learn more about Natural Yard Care, call the Natural Lawn and Garden Hotline at 206.663.0224; check online at metrokc.gov/dnrp/swd/naturalyardcare. Or, to receive a copy of the brochure call 425.430.7287 or email: hweagraff@ci.renton.wa.us

Build healthy soil

Plant right for your site

Practice smart watering

Think twice before using pesticides

Practice natural lawn care

For fact sheets and photos of almost 500 outstanding Pacific Northwest plants

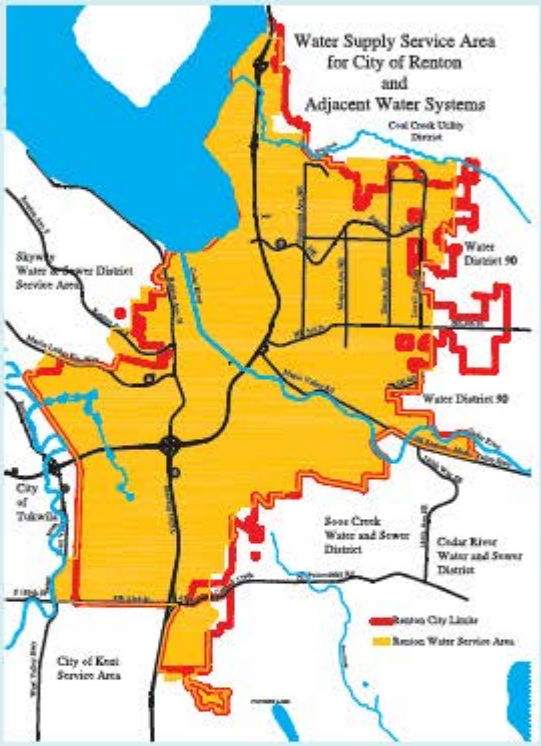
About This Report

We are sending you this report to let you know that Renton's water met or exceeded State and Federal standards for drinking water quality during the 2006 calendar year. This report is written and distributed in compliance with the Federal Safe Drinking Water Act, which requires water utilities to provide annual "consumer confidence" reports to their customers. You will find in this report where our drinking water comes from; what minerals or chemicals it contains; how it compares to stringent water quality standards; and what Renton is doing to protect our water supply.

We hope that this Water Quality Report will help you, our customer, to better understand our drinking water and to heighten your awareness of the need to protect our water resources. We would also like to assure you *that providing high quality and safe drinking water is Renton's highest priority.*

Where Does Renton's Drinking Water Come From?

During the year 2006, Renton obtained its drinking water from three sources: five downtown wells, located in Liberty and



Cedar River Parks, which draw water from the Cedar Valley Aquifer; Springbrook Springs, a small spring located at the southern city limit, and from the Maplewood wellfield located in the Maplewood Golf course. In 2006, our combined water sources produced 2.91 billion gallons of water.

Liberty Park well house.

In 2006 the Downtown wells supplied 84.2% of the City's water; Springbrook Springs produced 15.1%; and the Maplewood wells contributed 0.7%. The Maplewood wells are backup wells and started production in August, 2006.

The water pumped from the Downtown wells and Springbrook Springs sources is very clean and needs minimal treatment. Chlorine, which destroys bacteria and viruses, is added to make sure the water stays clean on its way to the customers. Because our water is naturally soft, whick makes it slightly acidic, sodium hydroxide is added to stop corrosion of plumbing. Fluoride is also added to prevent tooth decay. In the areas of Renton Hill, Talbot Hill, and West Hill, ortho polyphosphates are added to the water to reduce corrosion of the iron water pipes found in these neighborhoods.

The Maplewood wells water is also very clean but because of its natural mineral content, it must first be treated before it can be co-mingled with the water from the other sources. This treatment process consists of the removal of manganese, hydrogen sulfide, and ammonia from the raw water. Chlorine is added for secondary disinfection and fluoride to prevent tooth decay.

Health Information

Our drinking water comes from wells and springs. As our water travels through the ground to the wells, it can dissolve naturally occurring minerals as well as substances from human activity. 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 at (1-800-426-4791).

Special Information Available

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

The results of our 2006 water quality monitoring are shown in the following tables. These substances are regulated by federal and state agencies. The Water Quality staff regularly monitors for over 100 compounds, to make sure our drinking water is safe. The substances listed in the tables below are the only ones that were detected above the Washington Department of Health reporting levels. As you can see, the water from all three of our sources, Downtown Wells, Springbrook Springs and Maplewood wellfield, meets or exceeds federal and state drinking water quality standards.

Definitions For Reading Water Quality Tables

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 MCLGs as feasible using the best available treatment technology.

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

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.

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.

ppb (parts per billion): One part per billion is equivalent to ½ of a dissolved aspirin tablet in 1000 full bathtubs of water (approximately 50,000 gallons of water).

ppm (parts per million): One part per million is equivalent to ½ of a dissolved aspirin tablet in a full bathtub of water (approximately 50 gallons)

pCi/L (picocuries per liter): A measure of radioactivity.

City of Renton Water Quality Data For

Year 2004-2006 Data for Downtown Wells, Springbrook Springs, and Maplewood Wellfield

Detected Substance	MCL	MCLG	Highest Amount And Range Detected	Possible Sources of Detected Substance
SAMPLED AT THE SOURCE AFTER TREATMENT				
Fluoride	4 ppm	4 ppm	1.52 ppm (0.70 - 1.52 ppm)	Water additive to prevent tooth decay; Erosion of natural deposits
Nitrate	1 ppm	1 ppm	0.9 ppm (0.5 - 0.9 ppm)	Runoff from fertilizer use; Leaching from septic tanks; Erosion of natural deposits
Sodium	No MCL established (see note 1)	No MCLG established (see note 1)	53 ppm (5-53 ppm)	Erosion of natural deposits. Treatment to prevent corrosion of pipes (see note 1)
SAMPLED AT THE SOURCE PRIOR TO TREATMENT				
Radon	No MCL established (see note 2)	No MCLG established (see note 2)	305 pCi/L (165 - 305 pCi/L) Sampled 11/08/2000	Decay of natural deposits (see note 2)

YEAR 2006 DATA FOR SAMPLING POINTS IN THE WATER DISTRIBUTION SYSTEM

Detected Substance	MCL	MCLG	Highest Amount And Range Detected	Possible Sources of Detected Substance
Coliform Bacteria	5% of samples positive per month	0%	1.2% of samples positive. (0% - 1.2 %)	Naturally present in the environment

The EPA requires monitoring for the presence of lead and copper with the goal to minimize human exposure to lead and copper in drinking water.
Neither lead nor copper has been detected in Renton's water sources.

However, our water is naturally corrosive which could cause lead and/or copper present in your home plumbing to leach into your drinking water. To reduce its potential to corrode household plumbing, we treat our water with sodium hydroxide to raise the pH. The City then tests for lead and copper at household taps to make sure that our Corrosion Control Treatment is working.

The results of these tests are shown in the table below.

The 2007 Consumer Confidence Report

Year 2006 Data for Sampling Points in the Water Distribution System

Detected Substance	MRDL	MRDLG	Average Amount And Range Detected	Possible Sources of Detected Substance
Chlorine	4 ppm	4 ppm	0.9 (0.2 - 1.4 ppm)	Water additive used to control microbes

Year 2006 Data for Sampling Points in the Water Distribution System

Detected Substance	MCL	MCLG	Average Amount And Range Detected	Possible Sources of Detected Substance
Trihalomethane -	80 ppb	No MCLG established	3.6 ppb (2.8 - 35.7 ppb)	Byproduct of drinking water disinfection
Haloacetic Acids	60 ppbTotal	No MCLG established	3.6 ppb (0.6 - 11.8 ppb)	Byproduct of drinking water disinfection

Year 2004 Lead and Copper Sampling at Residential Water Taps (see note 3)

Detected Substance	Action Level	Ideal Goal	90th Percentile Value and Range (see note 3)	Possible Sources of Detected Substance
Lead	15 ppb	0 ppb	2 ppb	Corrosion of household plumbing systems
Copper	1.3 ppm	1.3 ppm	0.7 ppm	Corrosion of household plumbing systems

Notes:

1. The EPA has established a recommended level of 20 ppm for sodium as a level of concern for those consumers who may be restricted for daily sodium intake in their diets. Another source of sodium is treatment at the Maplewood Wellfield with sodium hypochlorite to remove naturally occurring ammonia and to control microbes.

2. The United States Environmental Protection Agency has proposed regulating radon. The proposed MCL is 300 pCi/L. Radon is a naturally-occurring radioactive gas that may cause cancer, and may be found in drinking water and indoor air. Some people who are exposed to radon in drinking water may have increased risk of getting cancer over the course of their lifetime, especially lung cancer. Radon in soil under homes is the biggest source of radon in indoor air, and presents a greater risk of lung cancer than radon in drinking water. Western Washington does not appear to have significant radon levels, although exceptions have been found (Indoor Air Quality Primer, Washington Department of Health, 2007).

3. Sampling for lead and copper was not required in 2006. During the 2004 sampling period, sixty (60) samples were tested. Ninety percent of the samples tested (54 samples) had levels at or below the value shown. Ten percent of the samples tested (6 samples) had levels above this value.

Lead is rarely found in source water, but enters tap water through corrosion of plumbing materials. Homes built before 1986 are more likely to have lead pipes, fixtures and solder.

However, new homes are also at risk: even legally "lead-free" plumbing may contain up to 8 percent lead. The most common problem is with brass or chrome-plated brass faucets and fixtures which can leach significant amounts of lead into the water, especially hot water.

WANT MORE INFO ABOUT LEAD?

The EPA Office of Groundwater and Drinking Water

www.epa.gov/safewater/lead

Water In The News

Fluoride

The fluoridation of public water supplies is a widely debated public health measure. Fluoridation news articles span the gamut from conspiracy theories of political and industrial intrigue emanating from organizations such as the Fluoride Action Network, to the Beverage Council of Australia petitioning to add fluoride to bottled water. Despite current concerns, fluoridation is supported by the last five U.S. Surgeon Generals, Washington Department of Health, the Centers for Disease Control, the American Dental Association, U.S. Public Health Service, the National Research Council, and the Environmental Protection Agency.

Fluoridation of drinking water began more than six decades ago in Grand Rapids, Michigan and today, 67 percent of the United States population served by public water supplies, drink water with fluoride added for dental decay prevention.

In 1985, the City of Renton citizens voted to add fluoride to their drinking water. In compliance with the citizen's wishes, a fluoride concentration of 0.8 to 1.3 parts per million (ppm) is maintained throughout the water distribution system in accordance with the Washington State Department of Health's drinking water regulations. Because of this vote, the City must continue to fluoridate our drinking water. This level has been determined to prevent cavities while being safe.

The Renton Water Utility does not provide health care advice. The Center for Disease Control's website, cdc.gov/fluoridation, provides a wide array of information and recommendations on the benefits and safety of water fluoridation.

Water Use Efficiency

Growing communities, agriculture, industry, and the importance of conserving water for fish have placed an increasing demand on our state's water resources. To help meet these growing needs, the Washington state legislature passed the **Municipal Water Supply-Efficiency Requirements Act** (WAC-Chapter 246-290), commonly called the Municipal Water Law (MWL) or the Water Use Efficiency rule. This rule went into effect on January 22, 2007. It is hoped that the implementation of this law will:

- Provide more certainty and flexibility for water rights held by water systems.
- More closely tie water system planning and engineering approvals by the Washington Department of Health (DOH) to water rights administered by the state Department of Ecology.
- Improve the ability to plan for future growth.
- Offer greater flexibility to solve public health problems with water right changes and transfers.
- Advance water use efficiency.
- Assure greater reliability of safe drinking water for communities.

What are the requirements of this Rule?

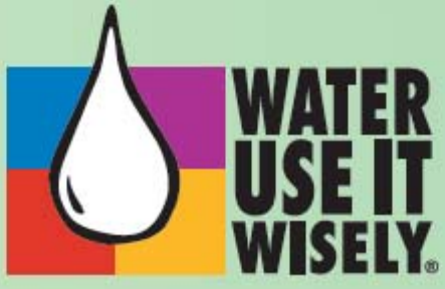
The rule requires municipal water suppliers to use water efficiently and demonstrate that they are doing so. Specifically, water systems must:

- Develop goals through a public process and enact water use efficiency measures to manage water use.
- Reduce distribution system leak age to 10 percent or less.
- Install service meters within 10 years, if not already installed, to accurately account for water us age and leakage.
- Reporting annually on their progress in using water efficiently.

How will this affect Renton?

Renton is working to comply with Water Use Efficiency Rule. We will be:

- Conducting a water system audit to be able to account for all water usage.
- Setting goals for water use efficiency through a public process, the result of which will be the initiation of many new conservation measures and a recommitment to old measures.
- Re-evaluating our water supply and forecasted demands.
- Reporting to both the Department of Health and Renton water customers each year as part of the Consumer Confidence Report.



Q & A

Frequently Asked Questions

What is a drinking water standard?

Under the authority of the Safe Drinking Water Act (SDWA), EPA sets standards for approximately 90 contaminants in drinking water. For each of these contaminants, EPA sets a legal limit, called a maximum contaminant level (MCL), or requires a certain treatment. Water suppliers may not provide water that doesn't meet these standards. Water that meets these standards is safe to drink, although people with severely compromised immune systems and children may have special needs.

Is Renton's water soft or hard?

A water's hardness, is dependent upon the levels of two naturally occurring soluble minerals - calcium and magnesium. Renton's water falls within the soft range with about 3.0 grains per gallon of hardness. This means that dishwashing and clothes washing require relatively less soap than in other areas where the water is hard.

Why is my water sometimes cloudy?

Cloudy water is usually caused by tiny air bubbles in the water similar to gas bubbles in carbonated beverages. These air bubbles are either from dissolved oxygen being released or trapped air in the plumbing. Usually, this cloudiness occurs in the winter, when the drinking water is cold and can hold more oxygen.

Clothes Washer Rebate

The City of Renton, in conjunction with PSE, is offering the WashWise program rebates of $50 to $100 for the purchase and installation of qualified energy and water-saving clothes washers The more energy and water the washer saves, the higher the rebate.

WASHWISE

More Info

City of Renton website
www.rentonwa.gov/living/default.aspx?id=11264

PSE website
www.pse.com/solutions/rebatesOnAppliances.aspx

Or Call: 425-430-7287

WaterSense

WaterSense is a new voluntary public-private partnership program, initiated by the EPA to promote water efficiency and enhance the market for water-efficient products, programs and practices. Much like the well known and successful ENERGY STAR label program that identifies energy-efficient products, the WaterSense program will help consumers to find and select water-efficient products with a label backed by independent testing and certifiction. WaterSense will also recognize professional service programs that incorporate water efficiency. Look for the WaterSense label and check the WaterSense website (epa.gov/watersense) to find the most up-to-date list of labeled products and programs.

look for WaterSense Meets EPA Criteria

Year 2006 Water Facts

Amount of water consumed in Renton on an average day in 2006 was 8 million gallons (average consumption in 2005 was 7.3 million; in 2004 it was 7.64 million; in 2003 it was 7.6)

The highest water demand (Peak Demand) day in 2006 occurred on July 24, when 15,271,000 gallons was consumed.

The lowest water demand day in 2006 occurred on October 26 when a low of 4,292,000 gallons of water was consumed.

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Who do I call?	Call
Questions about this report	Water Utility Engineering 425.430.7287
Water discoloration, taste or odor	Water Quality at 425.430.7400 (7 am—3:30 pm) or 425.430.7500
To report water pressure problems, water leak in the street or at a meter	Water Maintenance at 425.430.7400 (7 am—3:30 pm) or 425.430.7500
Moving and need to arrange a change of water service, or for general billing questions	Utility Billing at 425.430.6852

Want To Get Involved?

The City of Renton welcomes your interest in its water system. The Renton City Council is the City's decision-making body.

The Council meets on the first four Mondays of each month at 7:0 0 pm in the Council Chambers on the seventh floor of City Hall.

Call the City Clerk's office at 425-430-6510 for meeting or agenda information or check the City Council info at Renton's website, www.rentonwa.gov/government.