

Springfield Utility Board's
Annual Water Quality
Consumer Confidence Report
2007



Your Drinking Water:
Pure. *It's that simple.*

(Well, maybe not **THAT** simple.)

Springfielders expect their water to be of the highest quality. And delivering on that expectation is one of the most important jobs at Springfield Utility Board.

But how we deliver on the promise of water quality has changed over the years.

When SUB first started serving the water needs of the city in 1960, all of Springfield's water came from groundwater pumped from wells scattered throughout the city. Water from these wells fell as rain decades ago, having spent years seeping toward the aquifer through layers of sand and rock that act as high-quality natural filters. Once pumped out, this groundwater received a small amount of disinfection to ensure it stayed pure while being delivered to homes and businesses throughout the city.

That simple and effective groundwater pumping process serves us wonderfully today just as it has for nearly 50 years. But these days, as the city has grown, Springfield has turned to new water sources to meet demand, and with it, new methods of ensuring quality. SUB currently supplements groundwater with river water coming from the Mid-Fork Willamette River, and soon the McKenzie River will be tapped as a source as well. Using river water, which can be more easily influenced by human and animal activities, requires more active purification processes.

No matter the source, no matter the purification method, SUB's promise stays the same: **The water you receive from the tap will be of the highest quality, meeting or exceeding all standards for water quality.**

We invite you to turn the page, and take a moment to learn more about your water, and how SUB is working to keep it pure.



Filtration, not treatment

One way SUB keeps your water healthful is by filtering it to maintain and assure quality. SUB uses either mechanical or natural biologic filtration processes to purify the water. This means that, other than a small amount of chlorine serving as a disinfectant, no chemicals, not even fluoride, are added to your water.



Slow Sand Filtration

Currently, SUB has two filtration plants purifying your water. One is our Slow Sand Filtration plant, which came on line in 2003. This plant made it possible for SUB to supplement its groundwater source with surface water from the Mid-Fork Willamette River, thus helping us meet the growing water needs of the city. Because river water can be influenced by human and animal activity, it requires filtration prior to being added to our distribution system. The slow sand filtration method uses layers of sand and rock to mimic the natural biologic processes that have purified Springfield's water for centuries.



Above: Jason Carman, water production operator, monitors an ultraviolet light system used to minimize the amount of chlorine needed during the disinfection process. Below: one of the four filter beds at SUB's Slow Sand Filtration plant by the Willamette.

Plans are underway to expand this plant again, with the goal of nearly doubling the amount of water it can produce per day from the current 6.5 million gallon to 12 million gallons. Design will start next year, with a completion date set for 2011.

Carbon Filtration

The WeyCo Filtration Plant came on-line this year to assure water quality from a central Springfield wellfield after trace amounts of organic compounds were detected. At the plant, water flows through large containers of granulated activated carbon, a proven filtration method that easily and thoroughly removes the compounds. Rigorous and frequent water testing programs show that all of the organic compounds are removed. The result is water that continues to meet and exceed all state and federal water quality standards, as does all the water throughout SUB's system.



Above: Chuck Davis, SUB's water quality program manager, shows carbon used in water filtration. Left: Carbon being loaded into a filtration tank.



An example of a membrane filter cutaway.

Membrane Filtration

In addition to our two active filtration plants, two more are in the planning stages and should come on-line in the next two decades. These facilities will help us take advantage of our water rights on the McKenzie River, and each will have a ten million gallon per day capacity. This will help SUB keep pace with our community's growing water demands. One plant is currently slated for north Springfield and the other along the McKenzie. Both will likely use membrane technology, which purifies water by physically removing solids from the water. Along with allowing for water purification without chemicals, this mechanical process has several advantages, the most important being its ability to immediately increase or decrease the amount of water that can be filtered depending on current demand.

No matter the route it takes – through membranes, activated carbon or sand – SUB customers can rest assured that the water delivered to their taps is healthful, plentiful and of the highest quality.



A membrane filter system in action.



Health Information for SUB Customers

Drinking water (even bottled water) may contain small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. For more information about contaminants and the potential health effects, call the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

- Some contaminants that have the potential to affect Springfield's groundwater and drinking water supply include:
- Chlorine, which is an additive that is used to control microbes.
 - Haloacetic Acids (HAA5's), which are the by-product of drinking water disinfection.
 - Inorganic contaminants (salts and metals), which can occur naturally or as a result of storm water runoff, wastewater discharges, or farming;
 - Microbial contaminants (viruses and bacteria), which come from sewage treatment, septic systems, livestock, and wildlife;
 - Organic chemical contaminants (synthetic and volatile organics), which are by-products of industrial processes and can come from gas stations, urban storm water systems and septic systems;
 - Pesticides and herbicides, which may come from residential and agricultural use;
 - Total Trihalomethanes (TTHM's), which are the by-product of drinking water disinfection;
 - Radioactive contaminants, which can occur naturally or result from oil and gas production and mining activities.
 - Total Organic Carbon (TOC), which has no health effects; however, TOC provides a medium for the formation of disinfection byproducts. These byproducts include TTHM's & HAA5's.
 - Turbidity, which has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. In SUB's system, turbidity is low and there was little coliform bacteria detected.

SPECIAL NOTICES:

To ensure safe drinking water, EPA regulates the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration establishes limits for contaminants in bottled water to provide the same protection for public health.

Some people may be more vulnerable than others to contaminants in drinking water. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons having undergone organ transplants, people with HIV/AIDS or other immune system disorders, infants and some elderly people 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 at the number listed in this report.

CONCERNING LEAD IN YOUR HOME'S WATER:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Springfield Utility Board is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

2007 Springfield Utility Board Consumer Confidence Report Data

Inorganic Contaminants	MCLG	MCL	SUB Thurston Wellfield Result	SUB SP/MAIA Wellfield Result	SUB's Willamette Surface Water Treatment Plant Result	SUB/RWD WeyCO Wellfield Result	SUB/RWD Sports Way/I-5 Wellfield Result	RWD 7th & Q Wellfield Result	RWD Chase Wellfield Result	In Compliance?	Source
Nitrate (ppm)	10	10	ND	ND	ND	ND	1.4	2.7	2.3	Yes	Runoff from fertilizer; Erosion from natural deposits
Radiological Contaminants											
Combined Radium (pCi/l) 2003	0	5	ND	ND	1.57	ND	ND	ND	ND	Yes	Erosion from natural deposits
Uranium (ug/l) 2003	0	30	0.028	0.135	0.014	0.031	0.128	0.108	0.0386	Yes	Erosion from natural deposits

SUB system results have been consistently below the MCL and Oregon Health Division has approved sampling reduction to once every six years. These results are from 2003. Next sample series is scheduled for 2009.

Volatile Organic Compounds	MCLG	MCL	SUB Thurston Wellfield Highest Result	SUB SP/MAIA Wellfield Highest Result	SUB's Willamette Surface Water Treatment Plant Highest Result	SUB/RWD WeyCO Wellfield Highest Result	SUB/RWD Sports Way/I-5 Wellfield Highest Result	RWD 7th & Q Wellfield Highest Result	RWD Chase Wellfield Highest Result	In Compliance?	Source
TTHM's (Total Trihalomethanes) (ppb)	NA	80	2.0	9.7	14.2	2.5	2.3	7.7	1.9	Yes	By-product of drinking water disinfection
Range of Results: 1.3 - 2.0 5.8 - 9.7 5.2 - 14.2 2.5 ND - 2.3 6.5 - 7.7 ND - 1.9											
TTHM's Highest Annual Average = 4.2 TTHM's Range of all Results = ND - 14.2											
HAA5 (Haloacetic Acids) (ppb)	NA	60	1.9	7.5	12.3	ND	ND	8.7	ND	Yes	By-product of drinking water disinfection
Range of Results: ND - 1.9 ND - 7.5 2.5 - 12.3 ND ND 2.4 - 8.7 ND											
HAA5 Highest Annual Average = 2.7 HAA5 Range of all Results = ND - 12.3											

Disinfectants	MRDL	MRDLG	Highest Detection	Detection Range	Average of all samples	In Compliance?	Source
Chlorine (ppm)	4	4	0.74	0.15 - 0.74	0.50	Yes	Water additive used to control microbes

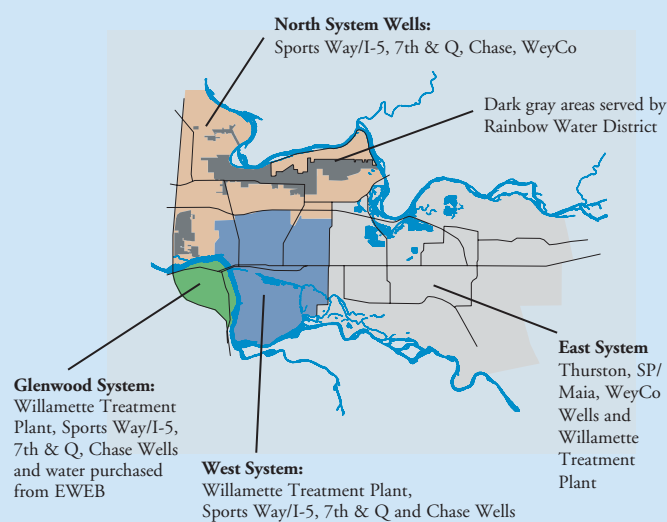
Inorganic Contaminants	MCLG	MCL	90th Percentile	Homes Exceeding Action Level	In Compliance?	Source	Turbidity	MCLG	MCL	Willamette Treatment Plant Highest Single Measurement	Willamette Treatment Plant Lowest Monthly % of Samples Meeting the limits	In Compliance?	Major Sources in Drinking Water
Copper (ppm)	1.3	AL=1.3	1.14	6	Yes	Corrosion of household plumbing systems	Turbidity	NA	TT*	0.201	100%	Yes	Soil Runoff
Lead (ppb)	0	AL=15	8	2	Yes	Corrosion of household plumbing systems	*Less than 1 NTU, 95% of the time. May not exceed 5 NTU at any time.						

SUB system results have been consistently below the Action Levels and Oregon Health Division has approved sampling reduction to once every three years. These results are from 2005. Next sample series is being collected now (Summer 2008) and updated results will be available soon.

Unregulated results of interest to our customers	Desirable to be less than	SUB Thurston Wellfield Result	SUB SP/MAIA Wellfield Result	SUB's Willamette Surface Water Treatment Plant Result	SUB/RWD WeyCO Wellfield Result	SUB/RWD Sports Way/I-5 Wellfield Result	RWD 7th & Q Wellfield Result	RWD Chase Wellfield Result
Hardness (as CaCO3) (ppm)	250	22 (2003)	67 (2003)	35 (2007)	30 (2003)	64 (2000)	65 (2000)	60 (2000)
Hardness (in grains)		1.3	3.9	2.0	1.8	3.7	3.8	3.5
Sodium (ppm)	NA	ND (2003)	13 (2003)	ND (2007)	5.4 (2003)	12.4 (2000)	19.8 (2000)	9.6 (2000)
Ph		6.6	7.6	6.9	6.6	7.4	7.9	6.7

Note: all results were collected in 2007 unless otherwise noted.

Springfield Utility Board Water Systems



A key to abbreviations and terminology used in the tables:

Special Notices

A Source Water Assessment that evaluates risks to groundwater and surface water has been completed as part of Springfield's Drinking Water Protection Plan. The plan was adopted May 17, 1999 and revised October 7, 2002. Copies may be reviewed or purchased for the cost of reproduction at the Springfield Public Library, Springfield Planning Services Division, Rainbow Water District or SUB's Water Service Center.

For more information on water issues

Learn more about water issues by attending SUB Board meetings, volunteering to help with pollution prevention projects, or by serving on a Customer Advisory Committee. If you have questions or need more information, contact:

Chuck Davis
SUB Water Quality Program Manager
(541) 726-2396

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

Oregon Department of Human Services (DHS) Drinking Water Program
(503) 731-4010

Este reporte contiene información que usted quizás desee tenerlo traducido.

AL or ACTION LEVELS: concentration level of a contaminant that, if exceeded, would require treatment or other requirements a water system must follow

AQUIFER: a water-saturated geologic formation capable of transmitting water in sufficient quantity to supply wells or springs

CONTAMINANT: naturally occurring or man-made impurities. A detected contaminant is one that tests at or above the minimum detection limits prescribed in Oregon Administrative Rules – OAR 33-061-0036

CUSTOMERS: service connections to which water is delivered by a community water system

MCL or MAXIMUM CONTAMINANT LEVEL: the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology

MCLG or 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)

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 disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants

NA or NOT APPLICABLE: no standard established

ND or NOTHING DETECTED: no contaminants detected

"NTU" or NEPHELOMETRIC TURBIDITY UNITS: units of measure for turbidity

pCi/l: picocuries per liter (a measure of radioactivity)

PPB or PARTS PER BILLION: one pound of contaminant per billion pounds of water

PPM or PARTS PER MILLION: one pound of contaminant per million pounds of water

TT or TREATMENT TECHNIQUE: a required process intended to reduce the level of a contaminant in drinking water

TURBIDITY: a measure of the cloudiness of water caused by suspended particles

ug/l: micrograms per liter or Parts per Billion (PPB)

VOLATILE ORGANIC COMPOUNDS (VOCs): man-made organic chemicals that evaporate easily (Trace amounts of TTHMs are the only VOCs detected in the SUB water)