

Crystal Springs Water District

Annual Drinking Water Quality Report for 2017

This report is designed to inform customers about the quality of the water delivered by the District. Crystal Springs is committed to the goal of providing a safe and dependable supply of drinking water to over 2400 active accounts.

Why am I receiving this report?

In 1996, Congress passed amendments to the Safe Drinking Water Act that require drinking water systems to give consumers important information about their water, including where it comes from, what is in the water, and how your water quality compares with federal standards. (EPA 40 Code of Federal Regulations, NPDWR Parts 141 and 142)

What if I have questions about my drinking water?

This report shows our water quality data and what it means. If you have any questions about this report or Crystal Springs Water District, please contact Superintendent Fred Schatz at (541)354-1818 or (541)399-3926.

Where does the water come from?

The water source is a glacier-fed groundwater spring which surfaces south of Parkdale in the Polallie Creek area off Highway 35. Flow at the spring varies from approximately 1500 gpm in the colder periods of the winter to approximately 2700 gpm during August, due to increased summer snow and glacial melt on Mt Hood.

The aquifer supplying drinking water to Crystal Springs is assumed to be within The Dalles Formation, specifically associated with old, and now buried, drainages that were subsequently filled with permeable alluvial and volcanic materials. It is likely that waters filter through various subsurface basalt and andesite formations and outcrop at Crystal Springs. As water travels through the ground, it dissolves naturally occurring minerals and radioactive material and can pick up substances resulting from human or animal activity.

How is the water source protected?

The 1996 Amendments to the Safe Drinking Water Act requires Source Water Assessments for public water systems to provide the tools to develop a three part drinking water protection plan:

- Identify the land surface that directly overlies the aquifer that supplies water to spring.
- Identify *potential* sources of contamination within the Drinking Water Protection Area (DWPA) or zone of contribution (zoc).
- Determine the susceptibility or relative risk to the water system from those sources.

The purpose of the assessment is to provide water systems with the information they need to develop a strategy to protect their drinking water resource if they choose. The respective Drinking Water Programs of the Departments of Human Services (DHHS) and Environmental Quality (DEQ) have completed the assessment for our system. A copy of the report is on file at the District office.

The certified DWPA/zoc for the Crystal Springs Water District is the area at the surface overlying the critical portion of the aquifer that supplies groundwater to the spring. The size of the DWPA/zoc is designed to approximate the long-term groundwater supply for the Crystal Springs Water District.

Based on the assessment results, the aquifer is considered to be highly sensitive. Given that viral contaminant sources have been identified within the DWPA/zoc, we also consider the drinking water supply to be susceptible to viral contamination. (DHHS)

The District has vigorously opposed plans that threaten water quality within the certified zone of contribution. US Senators Ron Wyden and Gordon Smith proposed the Lewis and Clark Mt Hood Wilderness Act of 2007 (S647) which designates a special resources management unit consisting of all US Forest lands located within 200 yards from any point on the perimeter of the District zoc. President Obama signed the bill into law on March 30, 2009.

What are the potential sources of contamination?

The aquifer is considered highly sensitive due to the shallow unconfined nature of the aquifer, the highly permeable character of the aquifer, the presence of fractured bedrock at the spring outflow, the low total dissolved solids in the water, the short travel time from the surface to the aquifer, and the availability of water to transport potential contaminants to the aquifer. The presence of highly permeable soils within the DWPA/zoc contribute to the overall sensitivity of the drinking water supply. No wells are presently known to exist within 500 feet of the spring inside the DWPA/zoc and therefore can not contribute to overall aquifer sensitivity.

An inventory of potential contamination sources was performed within Crystal Springs Water District zoc. The primary intent of this inventory was to identify and locate significant potential sources of contaminants of concern. The inventory was conducted by reviewing applicable state and federal regulatory databases and land use maps, interviewing persons knowledgeable of the area, and conducting a 'windshield survey' by driving through the drinking water protection area to field locate and verify as many of the potential contaminant source activities as possible. It is important to remember the sites and areas identified are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

The OR Department of Environmental Quality (DEQ) has identified nine potential contaminant sources within the certified DWPA/zoc, including rural homes, clearcuts, two unused wells, an area with potential for development, a campground, a subdivision, a quarry, and landslides. Potential sources such as the residential areas extend throughout the DWPA/zoc. With the exception of the rural homes, campground, and landslides, which pose a lower risk, the remaining potential sources pose a relatively higher to moderate risk to the drinking water supply. In addition, two inns, located just outside of the DWPA/zoc, are included in this inventory because they pose a moderate degree of potential contamination risk. (DHHS)

What contaminants might be in water?

Contaminants that may be present in raw or source water before it is treated are microbial contaminants, inorganic contaminants, pesticides and herbicides, radioactive contaminants, and organic chemical contaminants.

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources, such as agricultural and residential uses.
- Radioactive contaminants, which are naturally occurring.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

Is the Crystal Springs water supply treated?

Chlorine disinfection of the Crystal Springs water supply began as a result of massive flooding and extensive damage to the spring house area in early February, 1996. Heavy precipitation and unusually warm temperatures caused an early, rapid snowpack melt and subsequent flooding through the canyon above the spring. After reconstruction of the collection system, occasional total coliform (soil borne) bacteria were detected at the spring indicating continued surface water infiltration into the system, possibly from areas adjacent to the original collection

area. State Health officials have indicated that if the adjacent slopes are sealed (gunnite) to prevent surface water penetration into the collection system, the chlorination order could be lifted.

What are coliforms?

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacterial may be present. Crystal Springs currently submits 7 samples taken at random points throughout the system per month for bacterial testing. The lab calls immediately if a sample tests positive for *total coliform* indicating possible soil or fecal contamination. If *total coliform* is found, additional samples will be taken, you will be notified, and the cause will be determined and eliminated.

Are there contaminants in Crystal Springs water supply?

Crystal Springs routinely monitors for more than 100 constituents in your drinking water according to Federal and State laws. If, for any reason any of the tests does not show absolute safety, even at the very low levels tested for, you will be notified of the test results, what they mean, and what to do until corrections are made.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man-made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All 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. For more information about contaminants and potential health effects: EPA Safe Drinking Water Hotline (800-426-4791).

In the following tables you may find some unfamiliar terms and abbreviations:

parts per million (ppm) or milligrams per liter (mg/l) - 1 ppm is one minute in 2 years or a single penny in \$10,000.

parts per billion (ppb) or micrograms per liter - 1 ppb is one minute in 2,000 years, or a single penny in \$10,000,000.

parts per trillion (ppt) or nanograms per liter - 1 ppt is one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Maximum Contaminant Level Goal (MCLG) - the level of a contaminant below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Contaminant Level (MCL) - the highest level that is allowed. MCL's are set as close to the MCLG's as feasible using the best available treatment technology. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants. A person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect

Water Sample Data

Contaminant	Violation (Y/N)	Analysis	MCLimit	Likely Source of Contamination	*Test Date
Barium	N	0.0012 ppm	2.0 ppm	Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries	Dec 2007
Sodium	N	5.000 ppm	---		Dec 2007
Sulfate	N	3.3 ppm	250 ppm		June 1999
Radium 226/228	N	.700 pCi/L	5 pCi/L	Naturally occurring element in some drinking water	Oct 2012
Nitrate	N	0.0930	10 mg/L	Wild fires	Sept 2017

Contaminant	Violation (Y/N)	Analysis	MCLimit	Likely Source of Contamination	*Test Date
lead	N	.007ppm	.015 ppm	Corrosion of household plumbing systems	Sept 2017
copper	N	.169 ppm	1.3 ppm	Corrosion of household plumbing systems	Sept 2017
Tri Halo Me-thane	N	.002 mg/L	.08 mg/L	By product of chlorine disinfection	August 2017
SOC	Y	ND		Lab failure to submit results/CSWD submit results	April 2017

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

For more information:

The Board of Commissioners is committed to providing information to the community regarding issues that may affect the quality and quantity of Crystal Springs water. If you have questions, comments and/or issues to be addressed, please call the District office at (541) 354-1818, email us at office@cswdhr.com or contact any of the individuals listed below. You are welcome to attend monthly Board meetings.

<u>BOARD/BUDGET/STAFF</u>			
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Crystal Springs Water District continually strives to provide quality drinking water. The Board of Commissioners remains *adamantly* committed to the protection of the water source and preservation of water quality for current and future customers. Your assistance in protecting our water source and entire system from contamination is greatly appreciated.

This consumer confidence report has been prepared in accordance with the National Primary Drinking Water Regulations (NPDWR). The information in this report is being provided *in addition* to other notices that may be required by law.