

the water we drink

ISSUED JUNE 2018 / BASED ON 2017 WATER QUALITY DATA

Este informe contiene información muy importante sobre su agua potable.
Para obtener una copia de este reporte en español, por favor llame al
541-774-2430 o visite medfordwater.org/InformeDeConfianzaDelConsumidor.pdf



To Our Valued Customers,

We are pleased to share our 2017 Annual Consumer Confidence Report with you. In accordance with federal guidelines, this report provides the information you need to know about the water you drink. It is provided by Medford Water Commission, along with our Partner Cities of Central Point, Eagle Point, Jacksonville, and Phoenix.

This report includes facts about where your water comes from, water quality testing results for the year 2017, and information explaining what the results mean.

If you have any questions or comments about this information, please contact the Commission at 541-774-2728 or water@medfordwater.org. Contact information for our Partner Cities is provided inside. We welcome your interest in the safe, reliable, affordable, and pleasant tasting product that is delivered to you.

Medford Water Commission and our Partner Cities take pride in consistently providing high-quality drinking water that complies with all applicable federal and state water quality standards, and value and respect the responsibility to provide a critical life sustaining product to you and our growing communities.

Brad Taylor
General Manager

Medford Water Commission

Where does your water come from?

BIG BUTTE SPRINGS has been our primary water source since 1927. Considered a groundwater supply, the springs flow from the lower slopes of Mt. McLoughlin near Butte Falls, providing up to 26.4 million gallons per day. Consistently cold and clear, the springs discharge water of exceptional quality that requires no filtration or treatment other than disinfection, which is accomplished with on-site chlorination at a state-of-the-art treatment facility built in 1993. Spring flows are collected underground and never see the light of day until emerging from customers' taps.

THE ROGUE RIVER is a surface water supply that supplements the year-round springs supply during warmer summer months, when water use more than triples. While also high in quality, the river water requires additional treatment to meet drinking water standards. Performed at the Robert A. Duff Water Treatment Plant, treatment of this surface water includes ozonation, coagulation, settling and filtration, along with chlorination. The addition of ozone in 2002 provided a dramatic reduction in occasional musty tastes and odors that can occur in the river water.

PROTECTING OUR WATERSHEDS

The Big Butte Springs watershed drains about 88 square miles of largely undeveloped forestlands, and most of the watershed is protected as part of the Rogue River National Forest. Medford Water Commission owns 3,500 acres around Big Butte Springs, affording additional protection to this pristine source.

The portion of the Rogue River watershed upstream of the treatment plant is lightly developed, but includes some land uses that can lead to degraded water quality. Small communities and rural residences, farms and ranches, forestry practices, transportation, small industry and natural disasters can all cause water pollution. A recent Source Water Assessment (DEQ, 2018) lists numerous potential sources of contamination to the Rogue River. These sources and sites must be managed properly to prevent contamination of the drinking water for 136,000 people. The Assessment can be viewed on our website, medfordwater.org.

Medford Water Commission is devoted to watershed protection and works with many partners to safeguard our drinking water supplies.



2017 Water Quality Test Results For Treated Water

Regulated Contaminants Analyses**

Substance	MCL (Maximum Allowed)	MCLG (Ideal Goal)	Source	Average Amount Detected	Range	Complies?	Typical Source
Barium (ppm)	2	2	Big Butte Springs	0.003	N/A	YES	Erosion of Natural Deposits
			Rogue River	0.004			
Arsenic (ppb)	10	0	Big Butte Springs	0	N/A	YES	Erosion of Natural Deposits and runoff from orchards

Microbiological Contaminants

Substance	MCL (Maximum Allowed)	MCLG (Ideal Goal)	Detected Level	Complies?	Typical Source
Coliform bacteria	Present in ≤ 5% of Monthly Samples	0% Presence	0	YES	Naturally present in the environment
E.coli	0	0	0	YES	Human and animal fecal waste

Other Analyses

Substance	TT (Maximum Allowed)	% of Samples Meeting Standard	Highest Measurement	Complies?	Typical Source
Turbidity	Rogue River: 95% < 0.3 NTU Big Butte Springs: N/A	100%	Rogue River: 0.084 NTU	YES	Soil erosion and stream sediments

Unregulated Contaminants Analyses (Round 3 data from 2013-14)*

Substance	Water Source	Average Amount Detected	Range	Complies?	Typical Source
Chromium 6 (ppb)	Big Butte Springs	0.20	0.19 - 0.20	Not Regulated	Erosion of Natural Deposits
	Rogue River	0.12	0.11 - 0.13		
Chlorate (ppb)	Big Butte Springs	37	20 - 56	Not Regulated	Byproduct of Disinfection
	Rogue River	378	150 - 610		
Strontium (ppb)	Big Butte Springs	71	68 - 73	Not Regulated	Erosion of Natural Deposits
	Rogue River	54	52 - 55		
Vanadium (ppb)	Big Butte Springs	13.0	12.0 - 13	Not Regulated	Erosion of Natural Deposits
	Rogue River	2.3	2.0 - 2.5		

* Unregulated contaminants are monitored for the EPA to assess the prevalence and detection levels of substances being considered for future regulation.

** **Health Effects:** Arsenic - Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Barium - Some people who drink water containing barium in excess of the MCL over many years could experience an increase in blood pressure.

UNDERSTANDING THE RESULTS: Medford Water Commission and each of the cities participating in this report run water quality tests according to specific schedules. Hundreds of tests are run each year to ensure that no substances are present at harmful levels. Although continuously improving testing techniques allow contaminants to be detected at truly miniscule levels, most of the contaminants we test for have never been found in our water. Those that we do detect are found at levels well below health standards, as shown in the adjacent tables.

The City of Phoenix received a violation for not reporting sufficient Total Coliform Rule results in September 2017. The city was returned to compliance the following month. Given that all of the other entities' tests were within normal ranges during the periods in question, it is unlikely there were any adverse health effects that went undetected due to these lapses. If you wish to view additional monitoring results, a Water Quality Analyses report can be obtained at Medford Water Commission's offices, or online at medfordwater.org.

TESTING FOR MICROBES: Unlike most contaminants, microscopic organisms can appear suddenly and cause immediate illness. Testing for bacteria is therefore done on a frequent basis by Medford Water Commission and the other cities participating in this report. This includes looking for coliform bacteria as well as confirming that adequate chlorine is present in the water to provide ongoing disinfection. While most coliforms do not pose a health threat, they are a good indicator of whether other bacteria might be present. If found, further testing is conducted for harmful forms of bacteria.

CHLORINE RESIDUAL: Sodium hypochlorite is

used as a disinfectant and provides continuous protection to customers' taps. Sampling throughout the distribution system confirms that the amount of chlorine present is neither too low nor too high. Our water is effectively disinfected with much less chlorine than is allowed.

RADON TESTING: The most common source of this colorless, odorless gas is from the soil, but a small amount of exposure can come from tap water. We conduct testing, but radon is not currently regulated. Radon is considered to be a cause of cancer.

SPECIAL NOTICE FOR IMMUNO-COMPROMISED PERSONS: 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 particularly be 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 (1-800-426-4791).

WHAT THE EPA SAYS ABOUT DRINKING WATER CONTAMINANTS: 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 EPA's Safe Drinking Water Hotline (1-800-426-4791) or at www.epa.gov/safewater.

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.

CONTAMINANTS IN DRINKING WATER SOURCES MAY INCLUDE:

Microbial contaminants, such as viruses and bacteria, which may come from wildlife or septic systems.

Inorganic contaminants, such as salts and metals, which can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges, farming and leaching from plumbing materials.

Pesticides and herbicides, which may come from a variety of sources such as farming, urban stormwater runoff and home or business use.

Organic chemical contaminants, which are byproducts of industrial processes, and can also come from gas stations, urban stormwater runoff and septic systems.

Radioactive contaminants, which can occur naturally.

In order to ensure that tap water is safe to drink, the EPA has regulations that limit the amount of certain contaminants in water provided by public water systems and require monitoring for these contaminants. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Medford Water Commission and Cities' Disinfection and Disinfection By-Product Analyses

Substance	Entity	Average for Highest Location	Range	MCL (maximum allowed)	MCLG (ideal goal)	Complies?	Typical Source
Total Trihalomethanes (ppb)	M.W.C	11.3	ND - 25.0	80	0	YES	By-products of chlorination used in the water treatment process
	Central Point	8.06	0.77 - 22.8				
	Eagle Point	21.0	N/A				
	Jacksonville	7.48	0.72 - 21.9				
	Phoenix	ND	ND				
Haloacetic Acids (ppb)	M.W.C	10.3	ND - 26.0	60	0	YES	By-products of chlorination used in the water treatment process
	Central Point	4.8	ND - 19.5				
	Eagle Point	27.0	N/A				
	Jacksonville	3.75	ND - 15.0				
	Phoenix	ND	ND				
Chlorine Residual (ppm)	M.W.C	0.53	0.18 - 0.92	4.0 (MRDL)	4.0 (MRDLG)	YES	Treatment additive for disinfection
	Central Point	0.45	0.09 - 0.70				
	Eagle Point	0.38	0.25 - 0.79				
	Jacksonville	0.41	0.22 - 0.59				
	Phoenix	0.48	0.34 - 0.62				

Radioactive Contaminants

Substance	MCL	MCLG	Amount Detected	Typical Source
Radon-222 (pCi/L)	Proposed: 4,000 pCi/L	Proposed: 0 pCi/L	Big Butte Springs - 155 pCi/L	Erosion of Natural Deposit

Lead and Copper Sampling from Residential Water Taps

Substance	Entity	Amount Detected (90th percentile value)	Date of most recent test	Action Level	MCLG (ideal goal)	Complies?	Typical Source
Lead (ppb)	M.W.C	0.9	2016	90% of homes tested must have lead levels less than 15 ppb	0	YES (No sample exceeded the action level)	Corrosion of household plumbing
	Central Point	1.8	2017				
	Eagle Point	2.5	2016				
	Jacksonville	2.4	2016				
	Phoenix	0.7	2015				
Copper (ppm)	M.W.C	0.842	2016	90% of homes tested must have copper levels less than 1.3 ppm	1.3	YES (No sample exceeded the action level)	Corrosion of household plumbing
	Central Point	0.441	2017				
	Eagle Point	0.192	2016				
	Jacksonville	0.366	2016				
	Phoenix	0.533	2015				

REDUCING EXPOSURE TO LEAD AND COPPER:

As is true with most water sources, lead and copper are found only in minuscule amounts within our source waters. However, because these metals can leach into drinking water through contact with household plumbing or distribution system pipes, additional testing is conducted at residences considered to be at greatest risk. Within the homes we've sampled, lead and copper have not been detected at levels that exceed EPA rules for safe drinking water.

However, customers should be aware that lead and/or copper levels can increase when water stands in contact with lead or copper pipes, lead-based solder and brass faucets containing lead. 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. Medford Water Commission and each of our Partner Cities are 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 running the cold water 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 (1-800-426-4791) or at www.epa.gov/safewater/lead.

TERMS AND ABBREVIATIONS

Terms used in the table are explained below.

Contaminant: A potentially harmful physical, biological, chemical or radiological substance.

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

MCL (Maximum Contaminant Level): The highest level of a contaminant allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.

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.

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.

ND (Non-detect): Not detected at an established minimum reporting level.

pCi/L (Picocuries per Liter): A measurement of radioactivity equivalent to a trillion times smaller than one curie.

ppm (Parts Per Million): One part per million means that one part of a particular substance is present for every million parts of water. This is the equivalent of one penny in \$10,000 or approximately one minute in two years.

ppb (Parts Per Billion): One part per billion corresponds to one penny in \$10,000,000 or approximately one minute in 2,000 years.

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

Turbidity: A measure of how clear water is, expressed in Nephelometric Turbidity Units. Turbidity does not necessarily indicate that water is unhealthy, but it can interfere with disinfection and can be an indicator of microorganisms.

FREQUENTLY ASKED QUESTIONS ABOUT

Water Quality



Does Medford Water Commission add fluoride to the drinking water?

No, we don't add fluoride to the water. Fluoride is a naturally occurring trace element in surface and groundwater. The U.S. Public Health Service considers the fluoride levels in our water sources to be lower than optimal for the prevention of tooth decay. You may want to consult with your dentist about fluoride treatment, especially for young children.

Is Medford's water soft or hard?

Hard water doesn't lather well. Our water is considered soft. Its hardness ranges from 20 to 40 parts per million (ppm), or around 1.2 to 2.4 grains per gallon.



Why does the water sometimes seem warmer?

During the winter months, our water comes exclusively from the Big Butte Springs and stays cold underground until it reaches customers' taps. In summer months, our supply is supplemented from the Rogue River, which can run considerably warmer and varies with outdoor temperatures. When both sources are used, the water is blended within the distribution system and customers may notice temperature variations depending on their location and time of day.



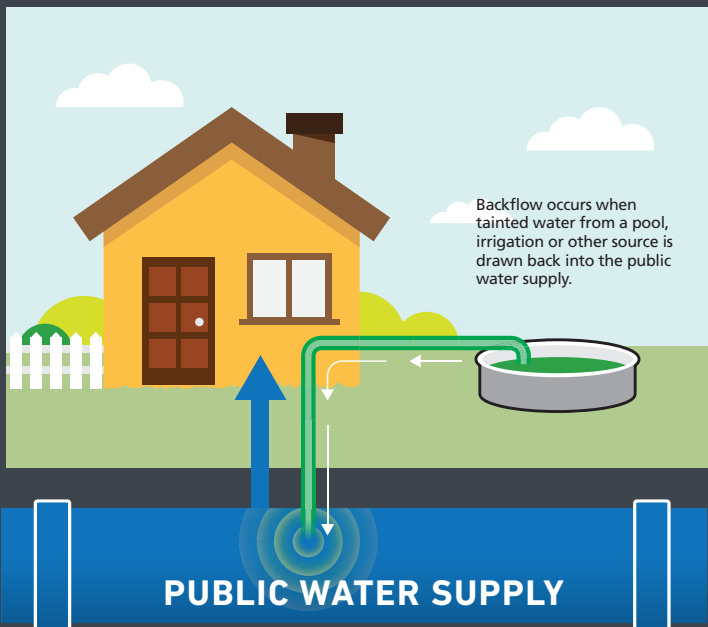
Does Medford Water Commission use chloramines?

No, only sodium hypochlorite is used for disinfection; ammonia is not added.



GUARDING AGAINST CONTAMINATION

In most respects, the quality of the water you drink is determined by the source of the water and the treatment it receives. However, you unknowingly may also play a role in preserving the quality of our water. If you have an in-ground irrigation system or pool, your role may be more important than you think!



What is backflow?

You might ask, how can your pool or irrigation system impact water quality? The answer involves "backflow." Contamination by backflow can occur when conditions cause water to reverse its normal direction of flow, causing tainted water to draw back into the household plumbing or the public water distribution system. This can happen when a hose is left in a pool, pond or cleaning bucket. And although serious backflow incidents are not common, they can and have occurred.

In-ground irrigation systems are the most widespread potential sources of backflow, but other plumbing systems associated with pool equipment, solar panels, fire sprinkler systems, and auxiliary water supplies such as wells are also possible sources.

So, how can you protect yourself and your neighbors from a potential backflow hazard from your irrigation system?

Since water within irrigation pipes can contain microbes or garden chemicals, these systems should always be equipped with backflow prevention device(s), as is required under state health codes. There are several types, each subject to certain installation requirements to assure it will function properly under state health regulations. Most are required to be tested after installation and each year thereafter.

Medford Water Commission has long played an active role in verifying the proper installation and testing of backflow prevention devices, particularly for high-hazard applications. Our program has been expanded to better address residential in-ground irrigation systems as well.



If you have an irrigation system and haven't included testing and upkeep of your backflow device as part of your yard maintenance tasks, we encourage you to do so. Remember, the people most likely to be endangered by a backflow situation at your house are those closest to it, which includes your family and neighbors. Working together, we can prevent this type of contamination from occurring.

If you'd like additional information on this topic, go to medfordwater.org or call 541-774-2450.

WATER QUALITY & CORROSION STUDY UPDATE

Why is Medford Water Commission Studying Corrosion?

Water quality and the protection of public health are Medford Water Commission's top priorities.

There is virtually no lead in our two water supply sources. Rather, lead leaches into water over time through corrosion, and comes from pipes, solder, fixtures, faucets and fittings. The rate of corrosion depends upon a variety of factors: the type of pipes the water comes in contact with, how long the water stays in the pipes, the water's corrosivity, and water temperature.

The Commission is conducting a Water Quality and Corrosion Study to evaluate treatment options that can, if necessary, reduce the water's tendency to release metals from service lines and household plumbing.

Though our water is in compliance with all EPA standards, there may be an opportunity to enhance the stability and quality of the water we deliver to our customers' taps.

What have we learned so far?

The first part of the study recently concluded, and the results show that increasing the pH (making water less corrosive) produces stable water that reduces the tendency of metals to leach from pipes.

Methods to increase pH add naturally occurring substances that have been safely used for decades in communities across Oregon and the United States.

What will be the outcome of the study?

The next phase in the study will test treatment methods on samples of the Commission's own pipe in the laboratory. By the end of 2018, we will have the data needed to identify the best option to preserve our community's high-quality water right to the tap, safeguard health, and keep water affordable.

How can I learn more?

The study is part of a multi-pronged approach to lead and copper in the water system. The Commission has worked to proactively find and replace lead pipe "pigtailed" installed in the early 1900s. More information on those efforts and steps you can take to reduce your exposure to lead and copper in drinking water is available in the Water Quality section of our website at medfordwater.org.



Medford Water Commission (PWSID: 41-00513)

Ben Klayman, PhD, PE,
Water Treatment & Quality Director:
541-774-2728
Email: ben.klayman@medfordwater.org
www.medfordwater.org
Board Meetings: 1st and 3rd Wed. at 12:15 pm
Lausmann Annex, 200 S. Ivy Street, Room 151

City of Central Point (PWSID: 41-00178)

Max Woody, Public Works Operations
Manager: 541-664-3321 (ext. 241)
Email: max.woody@centralpointoregon.gov
www.centralpointoregon.gov
Council Meetings: 2nd and 4th Thurs. at 7 pm
City Hall, 140 S. Third Street

City of Eagle Point (PWSID: 41-00267)

Paul Gregory, Public Works Supervisor:
541-826-4212 (ext. 136)
Email: paul@cityofeaglepoint.org
www.cityofeaglepoint.org
Council Meetings: 2nd and 4th Tues. at 7 pm
City Hall, 17 Buchanan Avenue South

City of Jacksonville (PWSID: 41-00405)

Jeffrey Alvis, City Administrator:
541-899-1231
Email: administrator@jacksonvilleor.us
www.jacksonvilleor.us
Council Meetings: 1st and 3rd Tues. at 6 pm
Old City Hall, 205 W. Main Street

City of Phoenix (PWSID: 41-00625)

Ray DiPasquale, Public Works Director:
541-535-2226
Email: ray.dipasquale@phoenixoregon.gov
www.phoenixoregon.gov
Council Meetings: 1st and 3rd Mon. at 6:30 pm
Public Works Office, 1000 South 'B' Street

Jackson County Health Department Environmental Public Health: 541-774-8206

Oregon Health Authority
Drinking Water Program: 1-971-673-0405
www.oregon.gov/oha/ph/healthyenvironments/drinkingwater

EPA Safe Drinking Water Hotline
1-800-426-4791

www.epa.gov/safewater