ANNUAL WATER QUALITY REPORT FOR
Medford Water Commission and Partner Cities:
Central Point · Eagle Point · Jacksonville · Phoenix

the water WE DRINK

CONSUMER CONFIDENCE REPORT

// ISSUED JUNE 2020
// BASED ON 2019 WATER QUALITY DATA

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

To Our VALUED CUSTOMERS,

We are pleased to share our 2019 annual Consumer Confidence Report, which includes facts about where your water comes from, water quality testing results for the year 2019, and information explaining what the results mean. It is provided by Medford Water Commission, along with our Partner Cities of Central Point, Eagle Point, Jacksonville, and Phoenix.

You will learn how the Commission protects, monitors, and treats the water that flows from our watersheds to your home, school or workplace. You will also get a glimpse of the work being done to improve our system to ensure that we can provide the Rogue Valley with high-quality drinking water for decades to come.

The Commission, and our country, continue to experience many changes and challenges. We strive to be proactive in anticipating issues and threats, to work together to identify potential problems before they occur, and to be open and transparent in all communications. These ideals are at the core of our Vision and Mission statements (see them on the About MWC page of our website) and impact our day-to-day decisions.

Throughout these changes and challenges, we will continue to provide high-quality drinking water that meets or surpasses all applicable federal and state drinking water standards, and to value and respect the responsibility to provide a critical life-sustaining product.

If you have any questions or comments about this material, please contact the Commission at 541-774-2728 or water@medfordwater.org. Contact information for our Partner Cities is provided inside. Read on to learn more about the water we drink and how you can join us in protecting and conserving this valuable resource.

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. 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. 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. 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.

Water quality and the protection of public health are our top priorities. In late 2018, the Commission completed a two-year Water Quality and Corrosion Study to better understand options to further reduce the possibility of lead and copper leaching from materials in service lines and household plumbing. Our two water supplies do not contain lead or copper. However, there may be an opportunity to make further improvements to preserve the community's high-quality water all the way to the tap; the study showed that adjusting the water chemistry is the best option to reduce the release of lead and copper from fixtures and fittings. The design and construction of facilities to enable these new water quality improvements is currently ongoing.

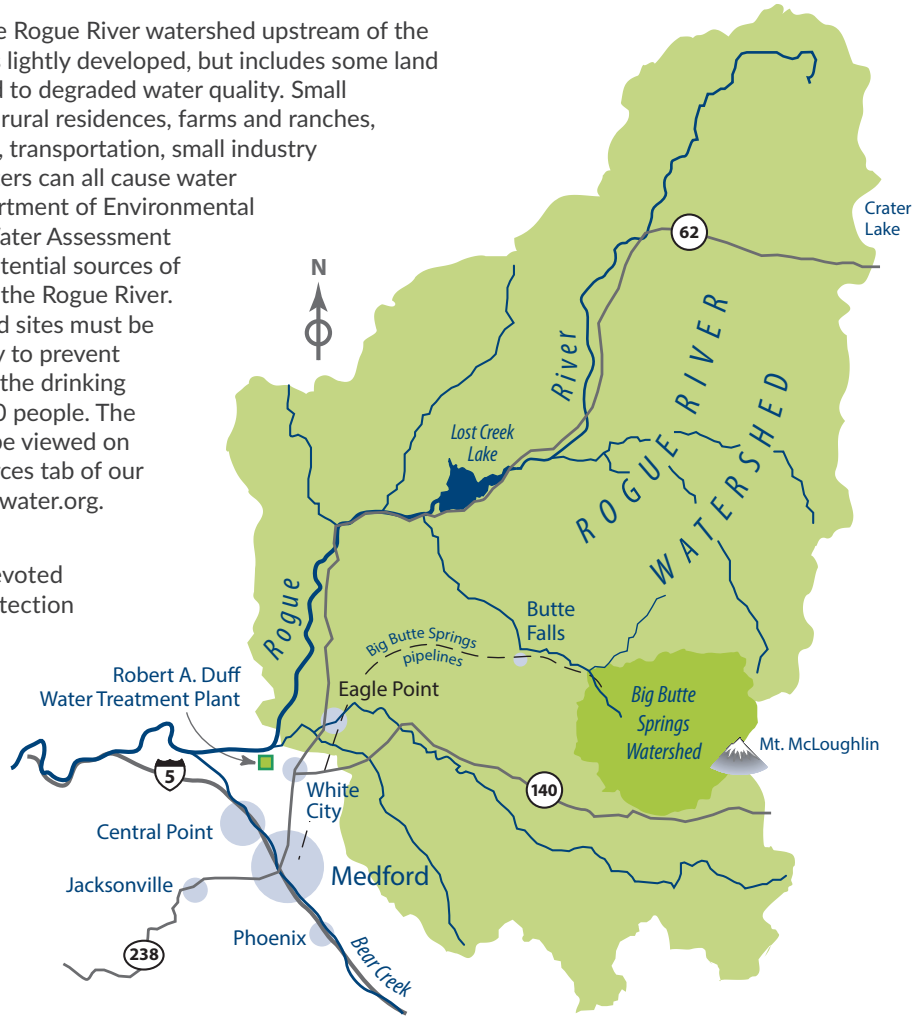
To stay on trend with changing population projections and to increase the resiliency and efficiency of our system, we are also expanding the capacity of our treatment plant from 45 million gallons per day (MGD) to 65 MGD. This work includes filters, ozone, pumping, and storage projects. These improvements will help us serve our customers for decades to come.

PROTECTING OUR WATERSHED

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 nearly 3,700 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 Department of Environmental Quality Source Water Assessment 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 140,000 people. The Assessment can be viewed on the Water Resources tab of our website, medfordwater.org.

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



2019 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	0.006	0.005 - 0.007	YES	Erosion of Natural Deposits
			Rogue River	0.003	0.003 - 0.004		
Beryllium (ppb)	4	4	Big Butte Springs	0.3	ND - 0.3	YES	Discharge from metal refineries, coal-burning factories; and electrical, aerospace, and defense industries
			Rogue River	0.2	ND - 0.2		

MICROBIOLOGICAL CONTAMINANTS

Substance	MCL (Maximum Allowed)	MCLG (Ideal Goal)	Detected Level	Complies?	Typical Source
Coliform bacteria	N/A	0% Presence	0	YES	Naturally present in the environment
E. coli	0	0	0	YES	Human and animal fecal waste

OTHER ANALYSES – ROGUE RIVER

Substance	TT	Maximum Amount Detected	Range	Complies?	Typical Source
Turbidity	95% < 0.3 NTU	0.1	N/A	YES	Soil erosion and stream sediments
Total Organic Carbon	N/A	1.1	0.4 - 1.1 ppm	YES	Soil erosion and stream sediments

UNDERSTANDING THE RESULTS: Medford Water Commission and each of the Partner Cities participating in this report run water quality tests according to specific schedules. Thousands 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.

Medford Water Commission received a reporting violation for failing to report all microbiological sample results by the end of the reporting period. All correct samples were collected, but results were reported to the State after the reporting period had closed. There are no expected health effects due to this error in reporting.

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 Partner 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. Guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the U.S. Environmental Protection Agency's (EPA's) 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 PARTNER 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	17.2	ND - 41	80	0	YES	By-products of chlorination used in the water treatment process
	Central Point	19.6	2 - 53				
	Eagle Point	37.8	37 - 38				
	Jacksonville	9.2	1 - 31				
	Phoenix	1.3	ND - 1.3				
Haloacetic Acids (ppb)	M.W.C	15.6	ND - 46	60	0	YES	By-products of chlorination used in the water treatment process
	Central Point	4.7	ND - 19				
	Eagle Point	0.2	0.2 - 0.2				
	Jacksonville	3.2	ND - 12.6				
	Phoenix	ND	ND				
Chlorine Residual (ppm)	M.W.C	0.6	0.2 - 1.0	4.0 (MRDL)	4.0 (MRDLG)	YES	Treatment additive for disinfection
	Central Point	0.4	0.1 - 0.7				
	Eagle Point	0.5	0.1 - 0.9				
	Jacksonville	0.5	0.3 - 0.7				
	Phoenix	0.5	0.3 - 0.7				

RADIOACTIVE CONTAMINANTS

Substance	MCL	MCLG	Amount Detected	Typical Source
Radon-222 (pCi/L)	N/A	N/A	Big Butte Springs - 88 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	2019	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	2.6	2019				
	Jacksonville	3.8	2019				
	Phoenix	1.4	2018				
Copper (ppm)	M.W.C	0.8	2019	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	0.4	2017				
	Eagle Point	0.1	2019				
	Jacksonville	0.4	2019				
	Phoenix	0.7	2018				

REDUCING EXPOSURE TO LEAD AND COPPER:

Our water sources, Big Butte Springs and the Rogue River, do not contain lead or copper. 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 (NTU). Turbidity does not necessarily indicate that water is unhealthy, but it can interfere with disinfection and can be an indicator of microorganisms.

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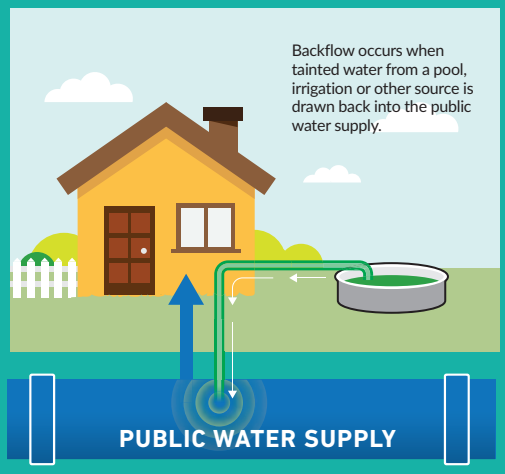
YOUR ROLE IN PROTECTING
Water Quality

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.

Frequently Asked Questions About **WATER QUALITY**

DOES OUR WATER CONTAIN PFAS?

Fortunately, both of the Commission's water sources are at low risk for per- and polyfluoroalkyl substances (PFAS), and PFAS have not been detected in either the Big Butte Springs or the Rogue River sources. We will continue to monitor these drinking water sources for contaminants such as PFAS and maintain our robust source water protection programs to continue to bring you a reliable, high-quality water supply at the best value.

DOES MEDFORD WATER COMMISSION ADD FLUORIDE TO THE DRINKING WATER?

No, we don't add fluoride to the water. 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?

Our water is considered soft.

HAVE ALGAL TOXINS BEEN DETECTED IN OUR DRINKING WATER?

No, algal toxins have never been detected at our intake or in our finished drinking water since the statewide testing program began in 2018.

WHAT CAN I DO TO IMPROVE MY WATER QUALITY?

- Always use the cold water tap for drinking or cooking, since hot water is more likely to release metals from pipe materials.
- During periods of long stagnation, water can pick up off-tastes from sitting in the plumbing inside of your house, especially in older plumbing systems. To help combat this, you can run your water for 30 seconds to 2 minutes (until you feel the temperature drop) before drinking or cooking, to flush water that has been sitting in pipes without use, such as: in the morning, after returning from work or school, and especially after a vacation. (Conservation tip: When flushing water from pipes, you can reduce the length of time needed to run the tap if you run your sprinklers, wash a load of laundry, or shower first. Consider catching flushed tap water for plants or other household use, such as cleaning.)
- Periodically remove and clean out the aerators in your faucet.

Drinking Water and Forest Health: **WHAT'S THE CONNECTION?**

The quality of the water we drink is greatly influenced by the quality and character of the land that provides it. Our water here in the Rogue Valley begins as snow and rain falling on the forested slopes of the Southern Cascades. This means that the health of the forests in our watershed plays an important role in source water protection; and that threats to our forests such as fire, drought, and disease also threaten our water supply. This danger is intensified by overcrowded and overstocked forests.

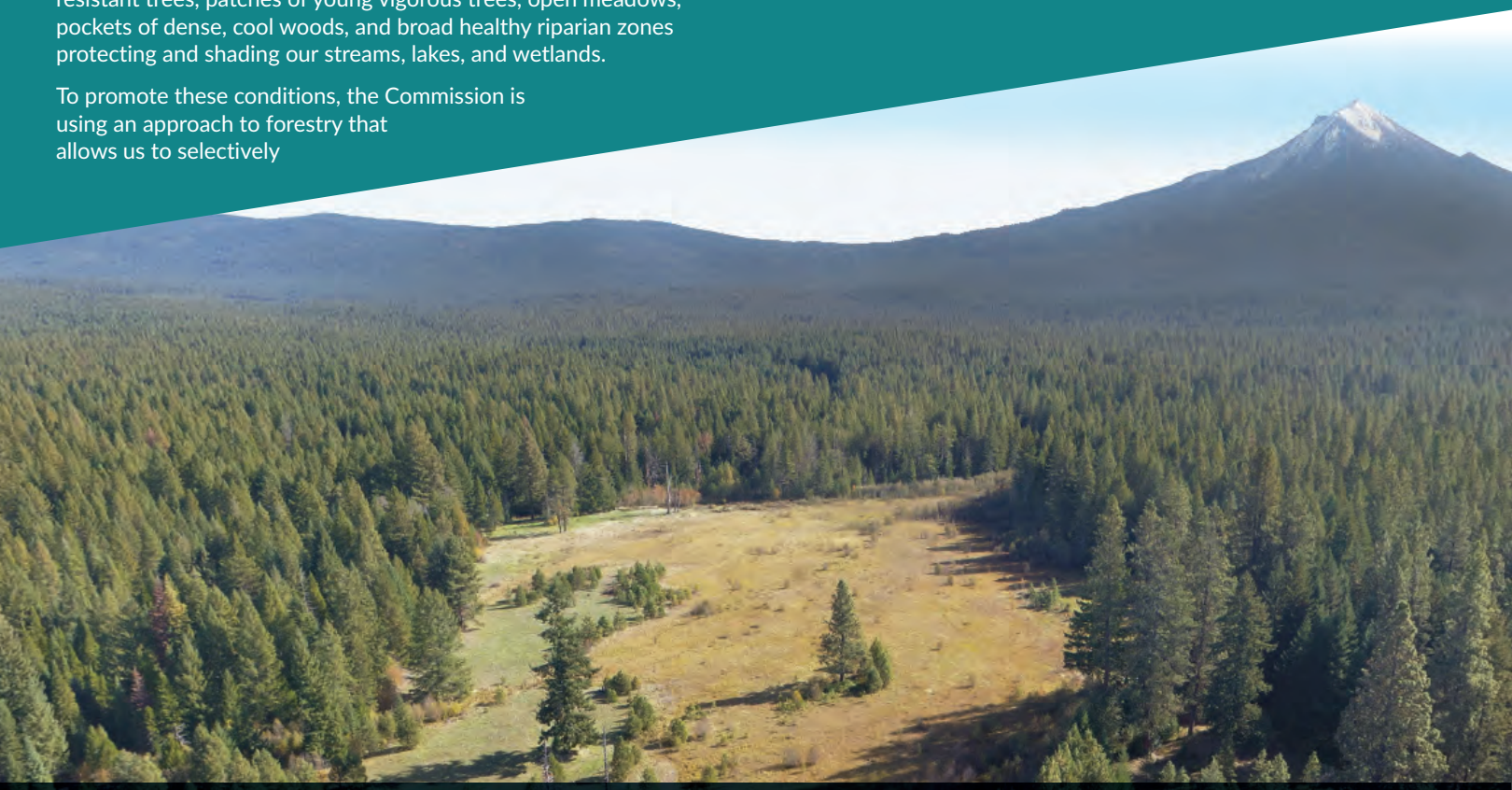
That's why Medford Water Commission practices and advocates for Active Forest Management, to ensure our forests retain the capacity to yield a consistent supply of cool, clean water to our community. Forest management begins with collaboration and partnering with local and regional organizations to identify what a healthy forest that protects source water looks like, and how we can manage, restore, and maintain forest health without the use of clear-cuts, fertilizers, and pesticides.

The Commission believes that a healthy forest well suited for source water protection is really a diverse-forested landscape with a mosaic of forest types: a landscape of open forests with large fire and drought-resistant trees, patches of young vigorous trees, open meadows, pockets of dense, cool woods, and broad healthy riparian zones protecting and shading our streams, lakes, and wetlands.

To promote these conditions, the Commission is using an approach to forestry that allows us to selectively thin our forests to healthier and more sustainable levels. By harvesting some trees and leaving others, we can maintain forest cover while improving forest health and reducing the risks of catastrophic fire. Because we leave a variety of different-sized trees in the forest, there is no need to replant and use fertilizers or pesticides. Instead, the remaining trees protect the land, and new trees regrow naturally from native genetic stock well adapted for the area.

Logs which are harvested supply the forest products we all use and help support our local economy. The revenue generated from the sale of timber funds other important forestry and watershed restoration efforts, such as thinning brush and small trees with no commercial value, restoration projects for streams, riparian areas, and meadows, or prescribed fires to safely reduce hazardous fuel build-up (an overgrowth of shrubs and young trees).

Please join us on the next biannual tour of our water treatment facilities and the Big Butte Springs watershed to see firsthand how Medford Water Commission is applying active forest management to protect and enhance our source water supply.



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Oregon Health Authority
Drinking Water Program: 971-673-0405

www.oregon.gov/oha/ph/healthyenvironments/drinkingwater

EPA Safe Drinking Water Hotline
1-800-426-4791
www.epa.gov/safewater