

# UTILITY DEPARTMENT

# 2023 ANNUAL WATER QUALITY / CONSUMER CONFIDENCE REPORT

In 2023, the City of Bend Water Department met or exceeded all Federal and State requirements to provide our customers with safe, reliable drinking water. This report details how the City of Bend remains committed to producing and delivering high-quality drinking water to our community day after day.

This report provides important information about the quality of our drinking water, an explanation of where our water comes from, and tips on how to interpret the data in this report. The data presented is for January 1 through December 31, 2023, unless otherwise noted. If you are a manager or owner of a business or multifamily dwelling, please share this report with your employees or residents. If you would like printed copies, please call 541-317-3000, ext. 2 or visit our website at <u>bendoregon.gov/waterquality</u> to download a printable pdf of this report.

### **MESSAGE FROM THE DIRECTOR**

Welcome to the City of Bend's Annual Drinking Water Quality and Consumer Confidence Report. Our highest priority is protecting public health by providing safe, high-quality water services to our community. We are fortunate to have dual-water sources that provide exceptional water from the Cascade Mountains and the Deschutes Aquifer. To ensure quality, we continually test and treat the water with membrane filtration and chlorine disinfection, which remove or eliminate pathogens in drinking water before that water is served to you. This annual report highlights the results from water sampled and tested throughout our system in 2023 and the programs that support our water services. We are proud to provide such high-quality water to our customers now and in the future.



*Mike Buettner* Utility Department Director

# YOUR 2023 WATER QUALITY INFORMATION

# IMPORTANT HEALTH INFORMATION FROM THE EPA AND CDC

# **IMPORTANT INFORMATION**

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 online at <u>epa.gov/safewater</u>.

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. It can also pick up substances resulting from the presence of animals or human activity.

CONTAMINANTS IN DRINKING WATER SOURCES MAY INCLUDE:

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

To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protections for public health.

### IMPORTANT HEALTH INFORMATION FOR IMMUNOCOMPROMISED 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 be particularly at risk from infections. These people should seek advice about drinking water from their healthcare 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 (800-426-4791).

### LEAD

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.

The City of Bend Utility Department is responsible for providing high-quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry, or doing a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact the Utility Department's Water Quality and Lab Services staff at 541-317-3000, ext.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure are available at <u>epa.gov/safewater/lead</u>.

### **IMPORTANT INFORMATION FROM THE CDC**

Ensure the Safety of the Building Water System and Devices After a Prolonged Shutdown

Stagnant or standing water can cause conditions that increase the risk for the growth and spread of Legionella and other biofilm-associated bacteria. When water is stagnant, hot water temperatures can decrease to the Legionella growth range (77–108°F, 25–42°C). Stagnant water can also lead to low or undetectable levels of disinfectant, such as chlorine. Ensure that your water system is safe to use after a prolonged shutdown to minimize the risk of Legionnaires' disease and other diseases associated with water.

Information and guidance for Building Water Systems to ensure the safety of your building water system and devices after a prolonged shutdown, including steps to take before your business or building reopens, are available on the CDC website, <u>cdc.gov/legionella</u>.

### **DEFINITIONS, UNITS OF MEASUREMENT AND TIPS**

# **DEFINITIONS AND UNITS OF MEASUREMENT**

#### **Action Level**

The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

#### Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

#### Maximum Contaminant Level Goal (MCLG)

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.

#### Maximum Residual Disinfectant Level (MRDL)

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

#### Maximum Residual Disinfectant Level Goal (MRDLG)

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 contamination.

#### Most Probable Number (MPN)

A method used to estimate the concentration of microorganisms.

#### Nephelometric Turbidity Unit (NTU)

A measure of water's clarity (turbidity).

#### Not Applicable (N/A)

#### Not Detected (ND)

Substance not detectable using current monitoring equipment.

#### Part per Million (ppm)

Also known as milligrams per liter (mg/L) which is equal to the number of milligrams of a substance in one liter of water. One part per million is equal to 1,000 parts per billion.

#### Part per Billion (ppb)

Also known as micrograms per liter ( $\mu$ g/L) which is equal to the number of micrograms of a substance in one liter of water.

#### Part per Trillion (ppt)

Also known as nanograms per liter (ng/L) which is equal to the number of nanograms of a substance in one liter of water.

#### 90th Percentile

This means that 90 percent of the samples collected were equal to or below the value reported.

#### **Treatment Technique**

A required process intended to reduce the level of a contaminant in drinking water.

### TIPS FOR READING REPORT TABLES

- Start on the top left and read across the tables.
- Maximum and Minimum Amount Detected represent the measured amount.
- Unit is the means of measurement.
- Typical Source of Substance tells where the substance usually originates.
- In Compliance means the amount of the substance did not exceed government requirements.

For more definitions, tips, and an easy-to-read EPA infographic about understanding your water quality report, visit the EPA website at <u>epa.gov/ccr/understanding-your-annual-water-quality-report</u>.



### 2023 WATER TESTING RESULTS

# REGULATED AND UNREGULATED SUBSTANCES DETECTED IN 2023

### (BEND WATER DEPARTMENT, PUBLIC WATER SYSTEM ID OR41 00100)

The City of Bend Utility Department monitors for over 130 regulated and unregulated contaminants from both of its water sources throughout the year, including lead, copper, minerals, pesticides, and radioactive material. The data in the following tables are from January 1, 2023, to December 31, 2023, unless otherwise noted.

Through our monitoring and testing, some contaminants have been detected and are included in this report. However, our water continues to meet or surpass all current State and Federal safe drinking water standards.

# 

	from Bend Mun	icipal Watersl	ned, Bridge C	reek			
Regulated Contaminant		Minimum Amount Detected	Maximum Amount Detected	MCL, Action Level, Treatment Technique or MRDL	MCLG or MRDLG	Typical Source of Substance	In Compliance?
Total Organic Carbon		ND	0.59 ppm	Treatment Technique	N/A	Naturally present in the environment	YES
Turbidity		0.012 NTU	0.182 NTU	Must be less than or equal to 0.30 NTU in at least 95 percent of the measurements taken each month. Must at no time exceed 1 NTU	N/A	Soil runoff	YES
Entry Points to	Distribution Sy	vstem – Surfa	ce and Ground	dwater			
Regulated Contaminant		Minimum Amount Detected	Maximum Amount Detected	MCL, Action Level, Treatment Technique or MRDL	MCLG or MRDLG	Typical Source of Substance	In Compliance?
Nitrate (NO3)		ND	0.57 ppm	10 ppm	10 ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	YES
Nitrite (NO2)		ND	0.07 ppm	1 ppm	1 ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	YES
Arsenic		ND	8.1 ppb	10 ppb	0 ppb	Erosion of natural deposits; Runoff from orchards	YES
Fluoride		ND	0.18 ppm	4 ppm	4 ppm	Erosion of natural deposits	YES
Sodium		4.06 ppm	11 ppm	N/A	20 ppm	Erosion of natural deposits	YES
Mercury		ND	1.1 ppb	2 ppb	2 ppb	Erosion of natural deposits; Runoff from landfills; Runoff from cropland	YES
Contaminants presented	in this section are monito	pred less than once pe	r year. Data is from the	most recent testing done in accorda	ance with reg	llations	
Most Recent Sample Date: 1/6/2023		ND	1.5 ppb	6 ppb	0 ppb	Discharge from rubber and chemical facotries	YES
Unregulated contaminants		Minimum Amount Detected		Maximum Amount Detected	Average of results		In Compliance?
Contaminants presented in this section are unrege Perfluorooctanoic acid (PFOA)		<i>llated: See note 'Unregulated Contaminant Me</i> ND		onitoring' below	0.7 ppt		
Perfluorooctanoic ac	in this section are unrega	1	ID	7.9 ppt		0.7 ppt	NA
Perfluorooctanoic ac	cid (PFHxA)	۸ ۸		7.9 ppt 4.7 ppt		0.7 ppt	NA
Perfluorohexanoic a Perfluorohexanoic a	cid (PFOA) cid (PFHxA)	N N		7.9 ppt 4.7 ppt 4.2 ppt		0.7 ppt 0.3 ppt 0.2 ppt	NA NA NA
Perfluorooctanoic ac Perfluorohexanoic a Perfluoroheptanoic a Perfluoroheptanoic a	cid (PFOA) cid (PFHxA) acid (PFHpA) acid (PFHpA)	N N N		7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt		0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt	NA NA NA NA
Perfluorooctanoic a Perfluorohexanoic a Perfluoroheptanoic a Perfluoropentanoic a	cid (PFPA) cid (PFHpA) acid (PFHpA) acid (PFPeA)	N N N	ID ID ID	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt		0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt	NA NA NA
Perfluorooctanoic ac Perfluorohexanoic ac Perfluoroheptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL	cid (PFPA) cid (PFHpA) acid (PFHpA) acid (PFPeA) <b>*stem</b> <i>CONTAMINANTS</i>			7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt		0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt	NA NA NA
Perfluorooctanoic ac Perfluorohexanoic a Perfluoroheptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin	acid (PFPA) acid (PFHxA) acid (PFHpA) acid (PFPeA) <b>rstem</b> <i>CONTAMINANTS</i> ant	Minimum Amount Detected	ID ID Maximum Amount Detected	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL	MCLG or MRDLG	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt Typical Source of Substance	NA NA NA NA Compliance?
Perfluorooctanoic ac Perfluorohexanoic a Perfluoroheptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin	in this section are unregiced (PFOA) cid (PFHxA) acid (PFHpA) acid (PFPeA) <b>rstem</b> <i>CONTAMINANTS</i> ant	Minimum Amount Detected 0 of 1,089 sar throughout 202: coliform	ID I	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique	MCLG or MRDLG N/A	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt Typical Source of Substance Naturally present in the environment	NA NA NA Compliance? YES
Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobeptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin Total Coliform (non-1 DISINFECTION BYPF	in this section are unregiced (PFOA) cid (PFHxA) acid (PFHpA) acid (PFPeA) <b>2stem</b> <i>CONTAMINANTS</i> ant fecal) RODUCTS	Minimum Amount Detected 0 of 1,089 sar throughout 202: coliform	ID I	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique	MCLG or MRDLG N/A	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt Typical Source of Substance Naturally present in the environment	NA NA NA NA Compliance? YES
Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobexanoic a Perfluorobeptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin Total Coliform (non-1 DISINFECTION BYPH Haloacetic Acids	cid (PFPA) cid (PFHpA) acid (PFHpA) acid (PFPeA) <b>rstem</b> <i>CONTAMINANTS</i> ant fecal) RODUCTS Running annual average Range of single results at in these	Minimum Amount Detected 0 of 1,089 sar throughout 2023 coliform 2.7 ppb ND	ID ID ID ID ID Maximum Amount Detected 3 had detectable bacteria 8.2 ppb 14.6 ppb	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique	MCLG or MRDLG N/A	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt  Typical Source of Substance  Naturally present in the environment  Exproduct of drinking water	NA NA NA NA Compliance? YES
Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobeptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin Total Coliform (non-f DISINFECTION BYP) Haloacetic Acids Total	Contraction are unregional and an and a second are unregional and a second are unregional and a second are unregional and a second (PFPeA) and (PFPeA)	Minimum Amount Detected 0 of 1,089 sar throughout 202: coliform 2.7 ppb ND 2.0 ppb	ID I	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique 60 ppb N/A 80 ppb	MCLG or MRDLG N/A	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt  Typical Source of Substance  Naturally present in the environment  Byproduct of drinking water disinfection.	NA NA NA NA In Compliance? YES
Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobeptanoic a Perfluorobentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin Total Coliform (non-f DISINFECTION BYPH Haloacetic Acids Total Trihalomethanes DISINEECTION BESI	Contraction are unregional and unreg	Minimum Amount Detected 0 of 1,089 sar throughout 2023 coliform 2.7 ppb ND 2.0 ppb ND	ID I	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique 60 ppb N/A 80 ppb N/A	MCLG or MRDLG N/A	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt  Typical Source of Substance  Naturally present in the environment  Byproduct of drinking water disinfection	NA NA NA NA Compliance? YES YES
Perfluorooctanoic ac Perfluorohexanoic ac Perfluoroheptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin Total Coliform (non-f DISINFECTION BYPH Haloacetic Acids Total Trihalomethanes DISINFECTION RESI Free Residual Chlori	in this section are unregi cid (PFOA) cid (PFHxA) acid (PFHpA) acid (PFPeA) <b>25tem</b> <i>CONTAMINANTS</i> ant fecal) Running annual average Range of single results at all sites <i>Bunning annual average</i> Range of single results at all sites <i>DUAL</i> ne	Minimum Amount Detected 0 of 1,089 sar throughout 202: coliform 2.7 ppb ND 2.0 ppb ND 0.09 ppm	ID I	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique N/A 80 ppb N/A 4 ppm	MCLG or MRDLG N/A N/A	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt  Typical Source of Substance  Naturally present in the environment  Byproduct of drinking water disinfection  Water additive used to control microbes	NA NA NA NA Compliance? YES YES YES
Perfluorooctanoic ac Perfluorohexanoic ac Perfluoroheptanoic a Perfluoroheptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin Total Coliform (non-f DISINFECTION BYPH Haloacetic Acids Total Trihalomethanes DISINFECTION RESI Free Residual Chlori High-Risk Resi	cid (PFOA) cid (PFHxA) acid (PFHpA) acid (PFHpA) acid (PFPeA) <b>*stem</b> <i>CONTAMINANTS</i> ant fecal) <b>RODUCTS</b> Running annual average Range of single results at all sites <i>Bunda</i> average Range of single results at all sites <i>DUAL</i> ne <b>dential Water T</b>	Minimum Amount Detected 0 of 1,089 sar throughout 2023 coliform 2.7 ppb ND 2.0 ppb ND 2.0 ppb ND 0.09 ppm aps: Sampled	ID I	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique N/A 80 ppb N/A 4 ppm	MCLG or MRDLG N/A N/A	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt 0.8 ppt  Typical Source of Substance  Naturally present in the environment  Byproduct of drinking water disinfection  Water additive used to control microbes	NA NA NA NA Compliance? YES YES
Perfluorooctanoic ac Perfluorohexanoic ac Perfluorohexanoic ac Perfluoroheptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin Total Coliform (non-f DISINFECTION BYPH Haloacetic Acids Total Trihalomethanes DISINFECTION RESI Free Residual Chlori High-Risk Resi Lead and Copper	cid (PFPA) cid (PFHA) acid (PFHA) acid (PFHA) acid (PFPA) <b>'stem</b> <i>CONTAMINANTS</i> ant fecal) Running annual average Range of single results at all sites Running annual average Range of single results at all sites Running annual average Range of single results at all sites DUAL ne	Minimum Amount Detected 0 of 1,089 sar throughout 2023 coliform 2.7 ppb ND 2.0 ppb ND 0.09 ppm apps: Sampled	ID I	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique 60 ppb N/A 80 ppb N/A 4 ppm	MCLG or MRDLG N/A N/A	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt  Typical Source of Substance  Naturally present in the environment  Byproduct of drinking water disinfection  Water additive used to control microbes	NA NA NA NA Compliance? YES YES
Perfluorooctanoic ac Perfluorohexanoic ac Perfluorohexanoic ac Perfluoroheptanoic a Perfluoropentanoic a Distribution Sy MICROBIOLOGICAL Regulated Contamin Total Coliform (non-f DISINFECTION BYPH Haloacetic Acids Total Trihalomethanes DISINFECTION RESI Free Residual Chlori High-Risk Resi Lead and Copper Regulated Contamin	Acid (PFPA) cid (PFPA) acid (PFPA) acid (PFPA) <b>Stem</b> <i>CONTAMINANTS</i> ant fecal) RODUCTS Running annual average Range of single results at all sites Running annual average Range of single results at all sites <i>DUAL</i> ne <b>dential Water T</b> : ant	Minimum Amount Detected 0 of 1,089 sar throughout 2022 coliform 2.7 ppb ND 2.0 ppb ND 0.09 ppm aps: Sampled 2023 90 <sup>th</sup> Percentile Results	ID I	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique 00 ppb N/A 80 ppb N/A 4 ppm	MCLG or MRDLG N/A N/A 4 ppm	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt 0.8 ppt  Typical Source of Substance  Byproduct of drinking water disinfection  Water additive used to control microbes  Typical Source of Substance Corrosion of household and	NA NA NA NA Compliance? YES YES YES
Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobexanoic ac Perfluorobexanoic ac Distribution Sy MICROBIOLOGICAL Regulated Contamin Total Coliform (non-1 DISINFECTION BYPH Haloacetic Acids Total Trihalomethanes DISINFECTION RESI Free Residual Chlori High-Risk Resi Lead and Copper Regulated Contamin Copper	acid (PFOA) cid (PFHxA) acid (PFHpA) acid (PFHpA) acid (PFPeA) <b>2stem</b> <i>CONTAMINANTS</i> ant fecal) Running annual average Range of single results at all sites <i>DUAL</i> ne <b>dential Water T</b> : ant	Minimum Amount Detected 0 of 1,089 sar throughout 202: coliform 2.7 ppb ND 2.0 ppb ND 2.0 ppb ND 0.09 ppm aps: Sampled 2023 90 <sup>th</sup> Percentile Results 0.111 ppm	ID I	7.9 ppt 4.7 ppt 4.2 ppt 8.7 ppt MCL, Action Level, Treatment Technique or MRDL Treatment Technique N/A 60 ppb N/A 80 ppb N/A 4 ppm EPA Standard: Action Level 1.3 ppm	MCLG or MRDLG N/A N/A 4 ppm 1.3 ppm	0.7 ppt 0.3 ppt 0.2 ppt 0.8 ppt 0.8 ppt  Typical Source of Substance  Byproduct of drinking water disinfection  Water additive used to control microbes  Typical Source of Substance  Corrosion of household and commercial plumbing systems; Erosion of natural deposits	NA NA NA NA Compliance? YES YES YES

### **UNREGULATED CONTAMINANTS MONITORING (UCMR4)**

Unregulated contaminants are those that don't yet have a drinking water standard set by USEPA. The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should have a standard. The Bend Water Department monitors unregulated contaminants under the EPA's Unregulated Contaminant Monitoring Rule (UCMR). The latest sampling under the Fifth Unregulated Contaminant Monitoring Rule (UCMR 5) began in 2023 and will conclude by 2025. UCMR 5 results from 2023 are detailed in the table above, and six detections among 488 non-detect results of per and poly flouro alkyl substances (PFAS) were found. Two of the detections exceeded US EPA health advisory levels (HALs).

Information about UCMR 5 detections and PFAS at the Bend Water Department can be found at <u>bendoregon.gov/government/departments/utilities/water/water-quality-reports/perfluoroalkyl-and-polyfluoroalkyl-substances-pfas</u>.

State of Oregon health advisories for PFAS can be found at <u>oregon.gov/oha/ph/healthyenvironments/drinkingwater/operations/pages/pfas.aspx</u>.

US EPA health advisories for PFAS can be found at <u>epa.gov/sdwa/drinking-water-health-advisories-pfoa-and-pfos</u>.

UCMR 5 test results and data for the Bend Water Department and other public water systems are available for review at <u>epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule</u>.

For further information, you may also visit <u>epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-</u> <u>rule</u> or call EPA's Safe Drinking Water Hotline at 1-800-426-4791.



### **VIOLATION OF STANDARDS**

There were no violations of standards in 2023.

### WATER SOURCES AND TREATMENT

### WATER SOURCES BRIDGE CREEK WATERSHED



(Video Credit: Scott Nelson) Bridge Creek Watershed (youtube.com) youtu.be/ aqPtx isVw?si=AnwDSzL9bKgLkEeU

Since 1926, pristine water from the Bend Municipal Watershed has been the primary source of drinking water for the City of Bend's residents and businesses. When water demands increase during the summer because of outdoor landscape watering, groundwater must be pumped from the Deschutes Regional Aquifer to supplement our surface water supplies. Bend is fortunate to have these two water supply sources to meet peak season demand and use during emergencies.

#### 1. BEND MUNICIPAL WATERSHED

Our surface water source from deep in the Deschutes National Forest is our primary supply all year. The video above shows Prowell Springs, our source spring in the Bend Municipal Watershed.

#### 2. DESCHUTES REGIONAL AQUIFER

The City operates 20 wells to pump groundwater from the Deschutes Regional Aquifer to meet supply demands during peak season months and emergencies.

Both sources depend on rain and snowfall high in the Cascade Range to recharge Bend's watershed and our regional aquifer. Our clear, cold drinking water has won numerous awards for Best Tasting Water locally and regionally. It also won an Environmental Protection Agency Sustainable Public Health Protection Award.

# WATER TREATMENT SURFACE WATER TREATMENT

All surface water from Bend Municipal Watershed is treated at the Water Filtration Facility by membrane filtration, which removes pathogens and other particles too small for the naked eye to see. A small amount of chlorine is added to deactivate any viruses and bacteria while keeping our network of storage tanks and pipelines clean. The image below shows a snapshot of the surface water filtration process.



### **GROUNDWATER DISINFECTION**

Groundwater is naturally filtered by layers of soil, volcanic rock, sand, and gravel. Small amounts of chlorine are added when the water is pumped to ensure it is safe to drink and keep our distribution system of storage tanks and pipelines clean.

# **CERTIFIED WATER QUALITY LABORATORY** LABORATORY TESTING

City of Bend drinking water was tested more than 2,500 times in 2023.

Water professionals routinely collect samples from throughout our drinking water system for laboratory testing. All testing of the City of Bend drinking water is performed by accredited laboratories. The City of Bend Water Quality Laboratory is accredited by the Oregon Environmental Laboratory Accreditation Program (ORELAP) to National Environmental Laboratory Accreditation Program (NELAP) standards. This allows the City of Bend Water Quality Laboratory to perform microbiological analyses of drinking water and report results to the Oregon Health Authority (OHA).

In order to maintain the ORELAP accreditation, all analysts must pass proficiency testing each year for every water quality test performed. Scientists, chemists, and microbiologists test the water for over 100 potential contaminants with equipment so sensitive it can detect levels as low as one part per trillion.

Water quality test results are maintained in the Laboratory Information Management System (LIMS), a sophisticated database that enables a quick response to changes in water quality and analysis of water quality trends. Our 2023 water quality test results are included in this report.

# ADDITIONAL INFORMATION ABOUT OUR WATER

## **PROTECTING YOUR WATER**



### **STORMWATER POLLUTION AND FLOOD PREVENTION** WHAT IS STORMWATER AND WHY IS IT IMPORTANT?

**Stormwater** is water from rain or snow melt that collects on or runs off impervious surfaces such as roofs, buildings, roads, or paved or unpaved but compacted land surfaces.

Stormwater runoff increased over time as cities grew, land development increased, and impervious surfaces reduced natural infiltration. Instead of natural forests, meadows and porous volcanic rock and soils acting like a sponge to absorb the rainwater as it falls, impervious surfaces (like streets, sidewalks, buildings, etc.) change the travel path and flow rate of water. Stormwater gutters and pipes were originally installed to prevent flooding by quickly moving the water to streams or into drywells that discharge underground. However, stormwater runoff can impact water quality as it flows over surfaces, collecting pollutants such as oil, grease, bacteria, chemicals, sediment, and pesticides before flowing into the Deschutes River or toward our groundwater supply. New stormwater collection systems are required to include some measures to trap and reduce pollutants, but many older stormwater collection systems do not include these safeguards. There are many simple practices that everyone can do to help keep stormwater clean and protect our valuable water resources. Learn more by visiting our website at bendoregon.gov/stormwater.

Some of the infrastructure used to manage stormwater in Bend are listed here:

Bend has over 11,000 storm drain catchments or inlets (areas where stormwater enters infrastructure) throughout the City. Every storm drain connects to pipes that lead to either:

(A) underground "injection" facilities that infiltrate groundwater
(B) the Deschutes River
(C) landscape facilities
(see graphic at right)

#### NOT THE SAME AS SEWER PIPES

Bend's stormwater system is entirely separate from wastewater-sewer pipes. Stormwater is NOT treated at the Water Reclamation Facility (WRF).



### **MANAGING STORMWATER**

The City's Stormwater Program focuses on flood prevention, system maintenance, and protecting our local surface water and groundwater resources. Stormwater Program components address public education, public participation, illicit discharge elimination, construction site compliance, post-construction best management practices and facilities, municipal maintenance activities, and monitoring of stormwater quality.

The City helps ensure underground drinking water sources and our river are not negatively impacted by stormwater pollutants or spills. The City's municipal stormwater system operates under two permits from the Oregon Department of Environmental Quality. It continues to successfully implement the provisions within the permits to protect surface and groundwater quality.

The City's former Stormwater Public Advisory Group began in 2008 to provide input and continually improve the program. In 2022, the City created the Utility Public Advisory Group (UPAG) to focus on both stormwater and water conservation issues as a combined effort. Recent efforts are focused on exploring strategies to handle stormwater under increasing density while being protective of water quality and promoting water conservation. In 2024 and 2025, the UPAG will be providing input to the update of the City's Stormwater Master Plan update.

## SAFE DRINKING WATER PROGRAM CROSS CONNECTION CONTROL PROTECTS YOUR WATER QUALITY

The City of Bend Safe Drinking Water Program is committed to protecting water quality. Certain hydraulic conditions can cause water to flow opposite from its intended direction; this is called backflow, and it can be dangerous.

The City of Bend Safe Drinking Water Program works to protect the water in our distribution system by monitoring the installation and annual testing of backflow assemblies that prevent metered water from returning to the distribution system.

The image at the right shows a private irrigation system backflow prevention assembly. Water can only flow in one direction when the backflow assembly is open. When it is closed, the system keeps your home's drinking water free from potential yard pollutants.

As a water customer, you are responsible for maintaining your own private plumbing system and complying with annual backflow assembly testing performed by an Oregon Health



Authority certified backflow assembly tester, according to the Oregon Health Authority (OAR 333-061-0070) and City of Bend Code (14.3).

If you have any questions about our Cross Connection Control or the Safe Drinking Water Program, please contact us at 541-317-3000, ext. 2 or visit our website for more information at <u>bendoregon.gov/crossconnection</u>.

### WHAT YOU NEED TO KNOW ABOUT THERMAL EXPANSION

Most homes have a hot water heater. A potential hazard exists concerning backflow assemblies and a water heater. The condition, called thermal expansion, is explained as an increase in volume due to a rise in temperature. If not adequately released by the T/P valve, the increase in volume can force hot water backward (backflow) through the water meter and back into the public water system.

However, when a backflow assembly is in place, the water cannot move backward. Pressure can continue to increase and may cause damage to your plumbing system. This condition is rare, but the potential hazard exists. Protect yourself from thermal expansion problems by making sure you have a properly installed and functioning T/P valve and thermal expansion tank, as required by the Oregon Specialty Plumbing Code. If you do not have this protection or are unsure, please contact a licensed plumber who can inspect, repair, replace and install a T/P valve and thermal expansion tank.

Visit <u>bendoregon.gov/crossconnection</u> for more information about backflow prevention and annual testing requirements.



# SOURCE WATER ASSESSMENTS GROUNDWATER WELLS

A Source Water Assessment of all City of Bend groundwater wells was completed in 2013.

Assessments consist of the following:

- 1. Identification of the Drinking Water Protection Area
- 2. Identification of potential sources of pollution within the Drinking Water Protection area
- 3. Determination of the susceptibility or relative risk to the surface water from those sources.

To request a copy, call the Utility Department at 541-317-3000, ext. 2. In addition, Oregon DEQ and OHA prepare separate Source Water Assessment reports. These can be found at the State of Oregon: Department of Environmental Quality <u>deq.state.or.us/wq/dwp/swrpts.asp</u>.

### WATER RESOURCE PLANNING AND CONSERVATION



# WATER RESOURCE PLANNING CLIMATE PROOFING OUR LONG-TERM WATER SUPPLY

Long-term water supply planning today must address multiple risks. Will there be enough water in the future to meet all needs? How will Bend manage through more frequent drought cycles? Where will new supplies come from to meet the needs of growth? How will we protect water quality? What will a changing climate do to basin water supplies? The City of Bend, in collaboration with multiple partners in the Deschutes Basin, is working collaboratively on these issues. For the City, it all starts with carefully managing and maximizing the efficient use of our existing dual-source supplies.

In 2021, Bend completed an integrated update to its Water System Master Plan and state-required Water Management and Conservation Plan. These plans integrated the typical water master planning engineering work (pipes, pumps, and treatment facilities) and analyzed changes to the long-term water demand forecast. The plans show that investing in more conservation can delay the need to build three new wells and one new reservoir, saving over \$20 million in water system capital investment. Remember, any facilities we do not build, we will not have to spend staff time or additional funds to operate, maintain, or replace in the future.



The data from the last twenty years of water production shows that our efforts are working (see graph). Our WaterWise program, along with our data-driven Water Loss Control Program and integrated planning approach, is slowing the need for new supplies despite continued population growth. Our maximum day demand (MDD) is remaining relatively consistent year to year. Current projections suggest the City will need some

additional water supply in about 20 years, but much less than would be needed without our focus on implementing a strong water conservation program. Bend is part of a national trend of declining municipal demand for water as better water-saving technology is available for home appliances, toilets, and washers. Outdoors on the landscape, new irrigation technology linked with our AMI meters and water budget tools are producing results, too. The City is now rolling out additional conservation program elements, including offering rebates and incentives for customers who implement water-saving measures, implementing water-efficient development codes, and enforcing water waste code violations. For more details, please visit <u>bendoregon.gov/water</u>.

### WATER CONSERVATION KEEPING OUR COMMUNITY WATERWISE

Bend offers many programs and free resources to help you become the most efficient water user you can be! Conservation has direct benefits in helping preserve and protect our water sources and generate associated benefits by helping prevent runoff and waste.

#### Are you WaterWise? Log in to WaterSmart and see.

The first step in saving water is knowing how much water you use. Learn where and how much water you use by connecting to our WaterSmart Program at <u>bendoregon.gov/watersmart</u>. You can access your water use broken down by year, month, and day to help identify leaks and manage water-saving efforts. In the 2023 calendar year, 10,939 automatic leak alerts were sent through WaterSmart, alerting customers to constant consumption in their homes or businesses. Log in to WaterSmart today at <u>bendoregon.gov/watersmart</u>.

### **INDOOR CONSERVATION**

In a typical home, the toilets, showers and faucets are where we consume the most water inside. Therefore, these are the best water saving investments we can make to save water indoors. Looking for EPA WaterSense labeled devices ensures we are using less water each time we use it in our home.

#### Free Indoor Water Conservation Kits

The City of Bend distributes free Indoor Conservation Kits to Bend utility customers, typically during November-February, and kits include EPA WaterSense labeled showerheads, faucet aerators, and shower timers.



#### **Practical Plumbing Handbook**

The homeowner guide provides information about diagnosing leaks and repairing and replacing indoor devices. Request a copy at <u>conservation@bendoregon.gov</u> - include your address and contact information.

#### WaterSmart Leak Notifications

Automatic leak detection alerts are sent to customers. Save water and prevent potential damage to structures.

### **OUTDOOR CONSERVATION**

In Bend, 60 percent of the water used annually goes through a sprinkler system to the landscape. Given its potential for savings, conservation efforts focus primarily on outdoor water use education and technical assistance.

#### Sprinkler Inspection Program

Typically, 150-200 inspections are completed each growing season between April and October, providing Bend utility customers the educational and technical expertise to efficiently manage residential irrigation systems without waste.

#### Large Landscape Program

We work with parks, schools, and larger

landscape owners, providing technical expertise to efficiently manage large landscape irrigation systems and follow a customized water budget. We even set up alerts of water use per connection so a water budget can be tracked.

#### Water Waste Prevention Program

As described in Bend's water use code, we offer customer education, guidance, and technical expertise to prevent water waste. We strive for proactive adherence to the rules through education and communication, but we also respond to waste events in a regulatory compliance role. Follow the instruction on the Water Waste Prevention Program page to find out what our code says and how to report a water waste case. Visit <u>bendoregon.gov/conservation</u>.

### MORE WATER CONSERVATION RESOURCES

Check <u>WaterWisetips.org</u> for free resources to help you save!

- Seasonal Programs
- Free Workshops
- WaterWise Guides
- Rebates



# **IRRIGATION HOURS AND DAYS**

- No outdoor watering 9 a.m. 5 p.m.
- · Even addresses irrigate on even days
- Odd addresses irrigate on odd days
- Zero sprinkler overspray and runoff



# LEARN MORE ABOUT BEND'S "ONE WATER" CYCLE

The City of Bend Utility Department is always working to deliver high-quality water, stormwater management and water pollution prevention, and environmentally safe wastewater collection and treatment.

- Customer Brochure <u>bendoregon.gov/customerwelcome</u>
- Educational and Teacher Resources <u>bendoregon.gov/educationalresources</u>
- Bend Drinking Water Quality Basics <u>bendoregon.gov/waterquality</u> Water Quality Basics (for water hardness, specific water information for your hobbies, etc.).

# **GET INVOLVED**

• Bend City Council meetings occur on the first and third Wednesdays of the month. The work session begins at 5:00 p.m. The regular meeting begins at 7:00 p.m. Information is available at <u>bendoregon.gov/citycouncil</u>.

# **CONTACT US**

- City of Bend Utility Department, 62975 Boyd Acres Road, Bend, OR 97701 541-317-3000, ext. 2
- Rod Mingus, Water Operations Manager 541-317-3000, ext. 2

### Accommodation Information for People with Disabilities



To obtain this information in an alternate format such as Braille, large print, electronic formats, etc., please contact the Utility Department at <u>utilities@bendoregon.gov</u> or 541-317-3000, ext. 2, Relay Users Dial 7-1-1, and fax 541-317-3046.