CITY OF BLUE LAKE

Consumer Confidence Report
Water Quality Report for 2023

Introduction and Background

In 1996 Congress amended the Safe Drinking Water Act, requiring water systems prepare an Annual Water Quality Report for its customers providing information regarding the quality of water delivered to them. This report represents the City of Blue Lake's 2023 Consumer Confidence Report. California regulations prescribe what information must be presented by public water systems in their Consumer Confidence Report. It is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to State standards. If you have any questions about this report or the quality of your drinking water, please call Glenn Bernald at (707) 668-5655.

Water Source

Drinking water delivered by the City of Blue Lake is purchased from **Humboldt Bay Municipal Water District (HBMWD)**. The water is drawn from wells located in the bed of the Mad River northeast of Arcata. These wells, called Ranney Wells, draw water from the sands and gravel below the river bed at depths of 60 to 90 feet, thereby providing a natural filtration process. In summer this naturally filtered water is then disinfected via chlorination and delivered to the District's wholesale, municipal, and retail customers in the Humboldt Bay area. In winter, it is further treated at the regional **Turbidity Reduction Facility (TRF)** which reduces the occasional turbidity (cloudiness) in the District's source water. While turbidity itself is not a health concern, the **State Water Resources Control Board (SWRCB)** is concerned that at elevated levels, turbidity could potentially interfere with the disinfection process. The District's source water has been classified by the SWRCB as groundwater ***not*** under the direct influence of surface water. The classification is important with respect to the regulations that a water system must follow to ensure the water quality.

Water Quality in General

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not 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 visiting their website (http://water.epa.gov/drink/index.cfm).

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 therefore can pick up substances from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring, or result from urban stormwater 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 agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the **United States Environmental Protection Agency (USEPA)** and the SWRCB prescribe regulations that limit the amount of certain contaminants in water provided by public water systems and **The U.S Food and Drug Administration (FDA)** regulates California law and has established the contaminant levels in the bottled water industry to protect public health.

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 health care providers. USEPA/**Centers for Disease Control (CDC)** guidelines to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791) and website (http://water.epa.gov/drink/index.cfm).

Regulatory System to Protect Public Health

The Federal and State Government (USEPA and SWRCB, respectively) are responsible for establishing a comprehensive regulatory program to protect public health. The USEPA establishes *primary* drinking water standards for microbiological, chemical and radioactive contaminants that may be found in drinking water and may pose adverse health effects. The *primary* standard, called the **Maximum Contaminant Level (MCL)**, is the maximum allowable concentration of a specific contaminant in drinking water. States are delegated the primary responsibility for operation and regulatory oversight of the drinking water program. States must establish primary drinking water standards that are as stringent as those established by the USEPA. The SWRCB has adopted the USEPA primary standards, but for some contaminants has established more stringent requirements (e.g. a lower MCL).

The USEPA and California State Office of Environmental Health Hazard Assessment also establish **Public Health Goals (PHGs)**. A PHG is a contaminant's concentration in drinking water that does not pose significant risk to health, based on a human health risk assessment assuming lifetime consumption, and established risk assessment principles and methods. All the established PHGs are located in the tables at the end of this report.

MCLs take into account a contaminant's health risk and other factors such as its detectability, treatability and the cost of the treatment to remove it. MCLs are established as close as technically and economically feasible to its PHG.

The City Of Blue Lake's Water Quality Results

In order to ensure that tap water is safe to drink, the SWRCB prescribes regulations which limit the amount of annual monitoring and testing that is required each year. This testing is in accordance with SWRCB regulations and requirements to ensure its water is safe to drink. In 2023, the City of Blue Lake performed 26 water quality tests within the City's water distribution system. The results from the 2023 monitoring and testing program indicate that our water quality is very high, as has consistently been the case in past years.

The attached table lists all the drinking water contaminants that were detected during 2023. It also lists the microbiological contaminants. Additionally, the State allows public water systems to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year.

Therefore, results from prior years are included if such a contaminant was detected and when it was last tested. As you can see, there are very few entries in the table because very few contaminants were actually detected in 2023 and prior years. ***(It is once again important to note that the presence of these contaminants does not necessarily indicate that the water poses a health risk.)***

The City and HBMWD also test for microbiological contaminants. Coliform bacteria are naturally present in the environment and are used as an indicator that other bacteria may be present. Coliform testing is part of the water quality testing program to help signal if there is a problem with the treatment or distribution system which warrants further investigation. In 2023, the City of Blue Lake had zero positive coliform tests. Humboldt Bay had one positive coliform test, and they also remained in compliance.

Turbidity is a measure of the cloudiness of the water. HBMWD monitors it because it is a good indicator of water quality. Since the **Turbidity Reduction Facility (TRF)** became operational in late 2003, HBMWD has met the State's secondary maximum contaminant level standard for turbidity.

During 2014, HBMWD was also required to test for unregulated contaminants as part of the **Unregulated Contaminant Monitoring Rule (UCMR)** 3. In 2019 HBMWD also participated in the UMCR 4 testing requirements. This testing and results are described on the last page of this report.

You will find many terms and abbreviations in the attached table. To help you understand these terms, the following definitions are provided:

- **Public Health Goal (PHG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.
- **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 are set by the U.S. Environmental Protection Agency.
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs cover the aesthetic quality of the water such as odor, taste, and appearance.
- **Primary Drinking Water Standard (PDWS):** MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
- **Regulatory Action Level (AL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.

- **Detection Limit for Purposes of Reporting (DLR):** The DLR is a parameter that is set by state regulation for each reportable contaminant. The presence of these contaminants in the drinking water at its DLR does not necessarily indicate that the water poses a health risk and can be below its MCL
- **Maximum Residual Disinfectant Level (MRDL):** 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.
- **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 contaminants.
- **Minimum Reporting Level (MRL):** The MRL is defined by the USGS National Water Quality Laboratory as the smallest measured concentration of a substance that can be reliably measured by using a given analytical method.
- **Notification Level:** Notification levels are health-based advisory levels established by SWRCB for chemicals in drinking water that lack MCLs. When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply.
- **Primary Drinking Water Standards (PDWS):** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
- **Secondary Drinking Water Standards (SDWS):** MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect health at the MCL levels and are directed toward the aesthetics of drinking water.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **Variances and Exemptions:** SWRCB permission to exceed an MCL or not comply with a treatment technique under certain conditions.
- **n/a**: not applicable 0.
- **ND**: not detectable at testing limit
- **mg/L**: milligrams per liter
- **mg/L as CaCO3:** milligrams per liter of calcium carbonate (a measure of hardness)
- **ppb**: parts per billion or micrograms per liter (µg/L)
- **ppm**: parts per million or milligrams per liter (mg/L)
- **ppt:** parts per trillion or nanograms per liter (ng/L)
- **ppq:** parts per quadrillion or picogram per liter (pg/L)
- **pCi/l:** picocuries per liter (a measure of radiation)
- **microhmos:** a measure of specific conductance
- **NTU:** Nephelometric Turbidity Units

Additional General Information on Drinking Water

As stated above, 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (1-800-426-4791).

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. Humboldt Bay Municipal Water District and the City of Blue Lake 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 flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. [If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.] 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 (http://water.epa.gov/lead).

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	PHG (or MCLG)	Typical Source of Bacteria
Total Coliform Bacteria (State Total Coliform Rule)	(In a month) One	Zero	Zero Positive	Zero Positive	Naturally present in the environment.
Fecal Coliform or E. Coli (State Total Coliform Rule)	(In the Year) Zero	Zero	Zero Positive	Zero Positive	Human and/or animal fecal waste.
E. coli (Federal Total Coliform Rule)	(In the Year) Zero	Zero	Zero Positive	Zero Positive	Human and/or animal fecal waste.

TABLE 2 – SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER

Lead and Copper	Sample Date	Number of Samples Collected	90th Percentile Level Detected	Number of Sites Exceeding AL	AL	PHG (MCLG)	Schools Requesting Testing?	Typical Source of Contaminant
Lead (ppb)	2020	10	1.3	Zero	15	0.2	0	Internal corrosion of household plumbing systems; discharges from industrial manufactures; erosion of natural deposits
Copper (ppm)	2020	10	0.84	Zero	1.3	0.3	N/A	Internal corrosion of household plumbing systems; erosion of natural deposits; wood preservatives

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL (MRDL)	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2016	3.7	N/A	None	None	Salt present in the water and it is generally natural occurring.
Hardness (ppm)	2016	87	N/A	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring.

TABLE 4 – DETECTION OF CONTAMINANTS WITH A *PRIMARY* DRINKING WATER STANDARD

Chemical or Constituent *(and reporting units)*	**Sample Date**	**Level Detected**	**Range of Detections**	**MCL (MRDL)**	**PHG (MCLG)/(MRDLG)**	**Typical Source of Contaminant**
TTHM *(ppb)* (Total Trihalomethanes)	2023	7.5	0-3.2	80	N/A	Byproduct of the drinking water disinfection process.
HAA5 *(ppb)* (Haloacetic Acids)	2023	1.5	0-1.5	60	N/A	Byproduct of the drinking water disinfection process.
Chlorine *(mg/L)* as CL2	2023	Average 0.69	0.42-1.21	(MRDL) 4.0	(MRDLG) 4.0	Drinking Water disinfectant added for treatment.
Turbidity (NTU)	2023	0.59	.03-.59	TT = 5.0 NTU	N/A	Soil Runoff. High turbidity can hinder the effectiveness of the disinfectants. During the winter season, it is a good indicator of the effectiveness of the filtration system.

TABLE 5 – DETECTION OF CONTAMINANTS WITH A *SECONDARY* DRINKING WATER STANDARD

Chemical or Constituent *(and reporting units)*	**Sample Date**	**Level Detected**	**Range of Detections**	**SMCL**	**PHG (MCLG)**	**Typical Source of Contaminant**
Chloride *(mg/L)*	2016	3.9	N/A	500	N/A	Runoff/ leaching from natural deposits; seawater influence
Color *(units)*	2016	5.0	N/A	15	N/A	Naturally - occurring organic materials.
Specific Conductance *(µS / cm)*	2018	130	N/A	1,600	N/A	Substances that form ions when in water.
Sulfate *(mg/L)*	2016	10.0	N/A	500	N/A	Runoff/ leaching from natural deposits; industrial wastes.
Total Dissolved Solids *(mg/L)*	2016	90	N/A	1,000	N/A	Runoff/ leaching from natural deposits.
Turbidity (NTU)	2023	0.59	0.03 – 0.59	5.0	N/A	Soil Runoff. High turbidity can hinder the effectiveness of the disinfectants. During the winter season, it is a good indicator of the effectiveness of the filtration system.

Unregulated Contaminant Monitoring Rule (UCMR) 4 2019-2022 Testing Results

As part of the federal drinking water program, USEPA issues a list of currently unregulated contaminants to be tested by Public Water Systems throughout the nation. This process occurs every five years pursuant the **Unregulated Contaminant Monitoring Rule (UCMR).**The purpose of the UCMR program is to determine the prevalence of unregulated contaminants in drinking water. Results of this testing help USEPA determine whether or not to regulate new contaminants for protection of public health.

There have been four cycles of monitoring: UCMR 1 *(2001-2003),* UCMR 2 *(2008-2010),* UCMR 3 *(2013-2015),* and UCMR 4 *(2018-2020).* The District participated in UCMR 1 thru UCMR 3, in which 65 constituents were tested and reported in previous CCRs. The UMCR 4 consists of testing for 10 cyanotoxins, 20 additional contaminants, and 2 indicators. Below are the constituents within the previous five years that were detected above the minimum reporting level in the most recent tests. Information on the potential health effects are also included.

TABLE 6 – DETECTION OF UNREGULATED CONTAMINANTS

Chemical or Constituent *(and reporting units)*	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects Language
Total Alkalinity *(mg/L)*	2016	65	N/A	N/A	There are no health concerns related to alkalinity
HAA5 *(µg/L) [Sum of 5 Haloacetic Acids]*	2023	1.5	N/A	60	Some people who drink water containing Haloacetic acids in excess of the MCL over many years have an increased risk of getting cancer
HAA6 *(µg/L) [Sum of 6 Haloacetic Acids]*	2019	1.91	N/A	N/A	Some people who drink water containing Haloacetic acids in excess over many years have an increased risk of getting cancer
HAA9 *(µg/L) [Sum of 69Haloacetic Acids]*	2019	13.11	N/A	N/A	Some people who drink water containing Haloacetic acids in excess over many years have an increased risk of getting cancer
Total Organic Carbon (µg/ L)	2019	1100	1000	N/A	Indicator of the potential to form Haloacetic acids during water treatment. Total Organic Carbon has no known health effect.

Summary Information for Operating Under a Variance or Exemption

HBMWD's source water has been classified by the State Water Resource Control Board (SWRCB) as groundwater, not under the direct influence of surface water. The classification is important as to the regulations that a water system must follow to ensure water quality. In 2009, HBMWD requested the water system be exempt from triggered source groundwater monitoring under the Groundwater Rule because the system consistently achieves 4-log virus inactivation prior to their first service connection. The California Department of Public Health concurred and approved the requested exemption.