2021 Consumer Confidence Report

Water System Name:	Humboldt Bay Municipal Water District (HBMWD, District)	**Report Date:**	March 31, 2022

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 to December 31, 2021 and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse Humboldt Bay Municipal Water District a *828 7th Street, Eureka, CA 95501 or (707) 443-5018* para asistirlo en español.

Type of water source(s) in use:	The District's source water has been classified by the State Water Resources 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.
Name & general location of source(s):	The Humboldt Bay Municipal Water District is a regional water wholesaler that supplies the drinking water to local communities. Drinking water delivered by the District is drawn from wells below the bed of the Mad River northeast of Arcata. This water-bearing ground below the river is called an aquifer. These wells, called Ranney Wells, draw water from the sands and gravel of the aquifer at depths of 60 to 90 feet, thereby providing a natural filtration process. During the summer, this naturally filtered water is disinfected via chlorination and delivered to the District's wholesale municipal and retail customers in the Humboldt Bay area. During the winter, it is further treated at a regional Turbidity Reduction Facility which reduces the occasional turbidity (cloudiness) in the District's source water. While turbidity itself is not a health concern, SWRCB is concerned that at elevated levels, turbidity could potentially interfere with the disinfection process.

Drinking Water Source Assessment information:	A Drinking Water Source Assessment was conducted by the Department of Health Services in August 2002. A copy of this assessment can be obtained at the District office at 828 7th Street Eureka, CA. This assessment found that the source water of the Ranney Wells may be vulnerable to activities that contribute to the release of aluminum and barium. Aluminum is associated with some surface water treatment processes and erosion of natural deposits. Barium is associated with the discharges of oil drilling waste or metal refineries and erosion of natural deposits. The District treats its water and performs annual monitoring and testing, in accordance with SWRCB regulations and requirements, to ensure its water is safe to drink. The results from the 2021 monitoring and testing program indicate that our water quality is very high, as has consistently been the case in past years. The tables below list the drinking water contaminants detected during 2021. A detected contaminant is any contaminant detected at or above its Detection Limit for Purposes of Reporting (DLR) (limit is established by SWRCB) or for unregulated contaminants, the Minimum Reporting Level (MRL). The tables show the level of detected contaminants. Contaminants that are not detected, or are detected below the DLR or MRL, are not required to be reported. The tables also show the maximum contaminant levels (MCL) and public health goals (PHG). Definitions for terms used in this report are listed on the next page.

Time and place of regularly scheduled board meetings for public participation:	Second Thursday of each month at 9:00am at the Eureka Office, 828 7th Street, Eureka, California 95501.

For more information, contact:	Mario Palmero, Operations Supervisor	**Phone:**	(707) 822-2918

TERMS USED IN THIS REPORT

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 are set to protect the odor, taste, and appearance of drinking water.

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 (U.S. EPA).

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 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.

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 the health at the MCL levels.

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

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Variances and Exemptions: Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

ND: not detectable at testing limit

NTU: nephelometric turbidity unit (a measure of turbidity)
ppm: parts per million or milligrams per liter (mg/L)
ppb: parts per billion or micrograms per liter (µg/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)
µS/cm: microsiemens per centimeter (a measure of electrical conductivity)

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 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* that 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, agricultural application, 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 U.S. EPA and the State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1-6 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria (state Total Coliform Rule)	1	0	Two or more positive monthly sample	0	Naturally present in the environment
Fecal Coliform or *E. coli* (state Total Coliform Rule)	0	0	A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or *E. coli* positive	0	Human and animal fecal waste
E. coli (federal Revised Total Coliform Rule)	0	0	(a)	0	Human and animal fecal waste

(a) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

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

Lead and Copper	Sample Date	No. of Samples Collected	90th Percentile Level Detected	No. Sites Exceeding AL	AL	PHG	No. of Schools Requesting Lead Sampling	Typical Source of Contaminant
Lead (ppb)	2020	10	.12	0	15	0.2	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	2020	10	.96	0	1.3	0.3	Not applicable	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

TABLE 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2016	3.7	N/A	None	None	Salt present in the water and is generally naturally 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 (µg/L) (Total Trihalomethanes)	2021	7.3	N/A	80	N/A	Byproduct of drinking water disinfection
HAA5 (µg/L) (Haloacetic Acids)	2021	2.9	N/A	60	N/A	Byproduct of drinking water disinfection
Chlorine (mg/L)	2021	Average=0.44	.15-1.33	[MRDL = 4.0 (as Cl_2)]	[MRDLG = 4.0 (as Cl_2)]	Drinking water disinfectant added for treatment
Turbidity (NTU)	2021	.45	.01-.45	TT = 5.0 NTU	N/A	Soil runoff. High Turbidity can hinder the effectiveness of 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)	2021	.45	.01-.45	5	N/A	Soil runoff. High Turbidity can hinder the effectiveness of disinfectants. During the winter season, it is a good indicator of the effectiveness of the filtration system

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

Unregulated Contaminant Monitoring Rule (UCMR) –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 to 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). UCMR 1 through UCMR 3 tested for a total of 65 constituents The UCMR 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.

Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**Notification Level**	**Health Effects Language**
HAA5 (µg/L) [Sum of 5 Haloacetic Acids]	2019	6.7	N/A	60 µg/L	Some people who drink water containing haloacetic acids in excess of the MCL over many years may 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 may have an increased risk of getting cancer.
HAA9 (µg/L) [Sum of 9 Haloacetic Acids]	2019	13.11	N/A	N/A	Some people who drink water containing haloacetic acids in excess over many years may 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.

Additional General Information on Drinking Water

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).

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. U.S. EPA/Centers for Disease Control (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).

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 is 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://www.epa.gov/lead.

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.