

ANNUAL WATER QUALITY REPORT

Reporting Year 2022



Presented By
Highlands Water Company

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

PWS ID#: CA1710003



As Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. As far back as 1925, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain diligent in our effort to meet the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please know that we are always available should you ever have a question or concern about your water.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*



and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the last Wednesday of each month at 4:00 p.m. at our business office, 14580 Lakeshore Drive, Clearlake. An annual shareholders' meeting is held at the same location on the second Wednesday in April at 6:00 p.m. We welcome your attendance.

Where Does My Water Come From?

Highlands Water Company is a mutual water company located within the City of Clearlake. It draws surface water by the use of a pumping station facility from Clear Lake to a treatment facility for processing and distributes treated water to its shareholders of record by way of water mains located within the service district. Highlands Water Company produced roughly 306 million gallons of treated drinking water in 2022.

Source Water Assessment

A source water assessment of our system was completed in December 2017, and a current assessment is due to be completed in November 2023. The purpose of these assessments is to determine the susceptibility of a drinking water source in regard to potential contaminant sources. The report includes background information and a relative high susceptibility rating due to the eutrophic nature of the lake source. If you would like a copy of our assessment, please feel free to contact our office during regular business hours at (707) 994-2393.

Clear Lake watershed is vulnerable to potential contaminating activities (PCAs). The following is a list of the greatest concerns:

- harmful algal bloom
- herbicides and pesticides
- recreation on the lake
- septic and sewer systems

Specific water quality issues that are associated with each PCA include the following:

- arsenic
- E. coli
- phosphorus
- taste and odor



QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please contact Jeff Davis, Water Department Superintendent and Company General Manager, at (707) 994-2393.

Substances That Could Be in Water

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.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (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. 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.

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 can 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, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants that can be naturally occurring or can be the result of oil and gas production and mining activities.

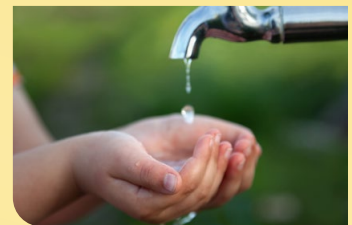
More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Lead in Home Plumbing

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.

We are responsible for providing high-quality drinking water, but we 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 two 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 at (800) 426-4791 or www.epa.gov/safewater/lead.



Test Results

State and federal regulatory guidelines mandate that the water we deliver meet specific health standards. Although our water is rigorously monitored for many different kinds of substances on a very strict sampling schedule, during the third quarter, we missed one sampling for bromate during a time of extended drought. This oversight was realized after a secondary backup review process was implemented, and a double sampling was performed soon afterward. All results were below the laboratory detection limit for bromate. Specifics are detailed elsewhere in this report.

In the section that follows, we only show those substances that were detected in our water. A complete list of all our analytical results is available upon request. Please keep in mind that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

TABLE 1. SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA
There were No Detections of Coliform Bacterica Found in Samples Taken During the Year 2022.

| MICROBIOLOGICAL CONTAMINANTS | HIGHEST NO. OF DETECTIONS | NO. OF MONTHS IN VIOLATION | MCL | MCLG | TYPICAL SOURCE OF BACTERIA |
|------------------------------|---------------------------|----------------------------|-----|------|------------------------------|
| E. coli | 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 follow 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
The next required sampling for Lead and Copper is due to be taken in June, 2023.

| LEAD AND COPPER | SAMPLE DATE | NO. OF SAMPLES TAKEN | 90TH PERCENTILE LEVEL DETECTED | NO. SITES EXCEEDING AL | AL | PHG | NO. OF SCHOOLS REQUESTING LEAD SAMPLING | TYPICAL SOURCE OF CONTAMINANT |
|----------------------|-------------|----------------------|--------------------------------|------------------------|-----|-----|---|---|
| Lead (ug/L) | 6/16/20 | 20 | ND | 0 | 15 | 0.2 | 1 | Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits |
| Copper (ug/L) | 6/16/20 | 20 | 0.91 | 0 | 1.3 | 0.3 | NA | Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits |

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 (mg/L) | 6/16/22 | 25 | - | NA | NA | Salt in the water is generally naturally occurring |
| Hardness as CaCO₃ (mg/L) | 6/16/22 | 188 | - | NA | NA | Salt present in the water and is generally 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 | PHG (MCLG) | TYPICAL SOURCE OF CONTAMINANT |
|---|---|----------------|---------------------|-----|------------|--|
| *1 Bromate (ug/L) | 2/16/22 5/11/22 7/22/22 8/10/22 11/9/22 | ND | 0 | 10 | 0.1 | Byproduct of drinking water disinfection process |
| *2 HAA5 (ug/L) (Haloacetic Acids) | Quarterly Testing 2022 | *2 72.40 | 21.80 - *2 72.40 | 60 | NA | Byproduct of drinking water disinfection process |
| TTHMS (ug/L) (Total Trihalomethanes) | Quarterly Testing 2022 | 33.48 | 9.06 - 42.32 | 80 | NA | Byproduct of drinking water disinfection process |
| Gross Alpha (pCi/L) Next Sampling April, 2024 | 4/26/15 | 0.067 | NA | 15 | 0 | Decay of natural deposits |

TABLE 5. DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

| CHEMICAL OR CONSTITUENT (AND REPORTING UNITS) | SAMPLE DATE | LEVEL DETECTED | RANGE OF DETECTIONS | MCL | PHG (MCLG) | TYPICAL SOURCE OF CONTAMINANT |
|---|-------------|----------------|---------------------|-------|------------|--|
| Chloride (mg/L) | 6/16/22 | 35 | NA | 500 | NS | Runoff/Leaching from natural deposits;seawater influence |
| Color (CU) | 6/16/22 | 6 | NA | 15 | NS | Naturally occurring organic materials |
| Odor (T.O.N.) | 6/16/22 | 7.1 | NA | 3 | NS | Substances that form ions when in water;seawater influence |
| Specific Conductance (EC) (umhos/cm) | 6/16/22 | 440 | NA | 1,600 | NS | Substances that form ions when in water;seawater influence |
| Sulfate as SO4 (mg/L) | 6/16/22 | 3.8 | NA | 500 | NS | Runoff/Leaching from natural deposits;industrial waste |
| Total Dissolved Solids (mg/L) | 6/16/22 | 250 | NA | 1,000 | NS | Runoff/Leaching from natural deposits: |
| Turbidity (NTU) | 6/16/22 | 0.1 | 0.10-0.295 | 5 | NS | Soil runoff |

TABLE 6. DETECTION OF UNREGULATED CONTAMINANTS

| CHEMICAL OR CONSTITUENT (AND REPORTING UNITS) | SAMPLE DATE | LEVEL DETECTED | RANGE OF DETECTIONS | MCL | PHG (MCLG) | TYPICAL SOURCE OF CONTAMINANT |
|---|-------------|----------------|---------------------|-----|------------|---|
| Aggressive Index (NU) | 6/16/22 | 11.83 | NA | NA | NA | Corrosive tendency of water to its effect on asbestos cement pipe |
| Bicarbonate (mg/L) | 6/16/22 | 220 | NA | NA | NA | Naturally occurring organic materials |
| Bicarbonate Alkalinity as CaCO3 (mg/L) | 6/16/22 | 180 | NA | NA | NA | Soil runoff |
| Calcium (mg/L) | 6/16/22 | 34 | NA | NA | NA | Leaching from natural deposits |
| Magnesium (mg/L) | 6/16/22 | 25 | NA | 50 | NA | Leaching from natural deposits |
| pH (pH Units) | 6/16/22 | 7.65 | NA | NA | NA | Naturally occurring |
| Total Alkalinity as CaCO3 (mg/L) | 6/16/22 | 180 | NA | NA | NA | Soil runoff |

Summary Information for Violation of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement

TABLE 7. VIOLATION OF A MCL, MRDL, AL, TT OR MONITORING REPORTING REQUIREMENT

| VIOLATION | EXPLANATION | DURATION | ACTIONS TAKEN TO CORRECT VIOLATION | HEALTH EFFECTS LANAGUAGE |
|------------|--|---|---|---|
| *1 Bromate | Missed 5/11/22 second quarter scheduled sampling during extended drought and power outage emergency issues | 5/11/22-7/22/22 | Doubled up taking bromate samples during third quarter routine sampling. Replacement sample taken 7/22/22. All sampled results during the year were a non-detect in status. | Over many years may possibly increase the risk of cancer. |
| *2 HAA5s | HAA5 Exceedance of HAA5 MCL 3rd Quarter 2022 at Upper 20th Street Tank but did not exceed the LRAA (Locational Running Annual Average) | Within 24 hour period per notification of the laboratory result | Additional tank turnover & increased sampling between quarters. Also, management is looking into available treatment options. | Exposure over many years may possibly increase the risk of cancer |



For Systems Providing Surface Water as a Source of Drinking Water

TABLE 8. SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES

| | |
|--|---|
| Treatment Technique (a) (Type of approved filtration technology used) | #1 Multi-Media Pressure Conventional Surface Water |
| Turbidity Performance Standards (b) (that must be met through the water treatment process) | Turbidity of the filtered water must: 1 - Be less than or equal to 0.3 NTU in 95% of measurements in a month. 2 - Not exceed 0.3 NTU for more 30 consecutive minutes. 3 - Not exceed 1.0 NTU at any time |
| Lowest monthly percentage of samples that met Turbidity Performance Standard No.1. | 100% |
| Highest single turbidity measurement during the year | 0.295 |
| Number of violations of any surface water treatment requirements | *1 OneTier 3 Monitoring Violation-Missed Sampling Bromate |

(a) A required process intended to reduce the level of a contaminant in drinking water.
(b) Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

About Our Violations

In May 2022 we missed our routine sampling for bromate. Upon having notified the proper state agency of the Oversight, we followed up by taking double samples during the next quarter sampling. Results of the analysis, done by an independent outside lab, have been received and properly recorded as required by state and federal law. Since all test results were below the laboratory detection limit, we are confident that missing this monitoring requirement did not have any impact on public health and safety. We have already taken the steps to ensure that adequate monitoring and reporting will be performed in the future so that this oversight will not be repeated.

Some people who drink water containing bromate in excess of the maximum contaminant level (MCL) over many years may have an increased risk of getting cancer.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

MCL (Maximum Contaminant Level): 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 (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

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 are set by the U.S. EPA.

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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L: picocuries per liter (a measure of radiation)

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.

PHG (Public Health Goal): 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 EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TON (Threshold Odor Number): A measure of odor in water.

µmho/cm (micromhos per centimeter): A unit expressing the amount of electrical conductivity of a solution.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

