



## 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, that can be naturally-occurring or be the result of oil and gas production and mining activities.

CITY OF ST. HELENA

2020

ANNUAL  
WATER QUALITY REPORT



## 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.

## 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).

**Lead-Specific Language:** 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. The City of St. Helena 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>.

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems are required to comply with the state Total Coliform Rule. Effective April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and *E. coli* bacteria). The U.S. EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, the correction must be done to be within the guidelines of the EPA and State Board prescribed 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.



TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

| Microbiological Contaminants (complete if bacteria detected) | Highest No. of Detections | No. of Months in Violation | MCL  | MCLG | Typical Source of Bacteria           |
|--|---------------------------|----------------------------|--|------|--------------------------------------|
| Total Coliform Bacteria                                      | 1                         | 0                          | 1 positive monthly sample(a)   | 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 positivesample(a) | 0    | Human and animal fecal waste         |
| E. coli (federal Revised Total Coliform Rule)                | 0                         | 0                          | (b)  | 0    | Human and animal fecal waste         |

(a) Two or more positive monthly samples is a violation of the MCL  
(b) 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 (complete if lead or copper detected in the last sample set) | 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)   | 2019        | 21                       | ND                             | 0                      | 15  | 0.2 | 2                                       | Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits |
| Copper (ppm)   | 2019        | 21                       | 0.55                           | 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)                                  | 2020        | 29             | 6.4 - 46            | None | None       | Salt present in the water and is generally naturally occurring   |
| Hardness (ppm)                                | 2020        | 88             | 24 - 162            | 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  |
|---|-------------|----------------|---------------------|------------|--------------------|--|
| Aluminum (ppm)                                | 2020        | ND             | ND - 0.09           | 1          | 0.6                | Erosion of natural deposits; residue from some surface water treatment processes.  |
| Barium (ppm)                                  | 2020        | ND             | ND - 0.11           | 1          |                    | Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits.                                   |
| Fluoride (ppm)                                | 2020        | 0.16           | ND - 0.32           | 2.0        | 1                  | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories. |
| Chlorine (ppm)                                | 2020        | 0.74           | 0.04 - 1.81         | [4.0]      | [4]                | Drinking water disinfectant added for treatment.   |
| TTHMs (Total Trihalomethanes) (ppb)           | 2020        | 62             | 48 - 71             | 80         | N/A                | Byproduct of drinking water disinfection.  |
| HAA5 (Sum of 5 Haloacetic Acids) (ppb)        | 2020        | 65*            | 38 - 93             | 60         | N/A                | Byproduct of drinking water disinfection.  |
| Control of DBP precursors (TOC)               | 2020        | 1.91           | 1.24 - 2.69         | TT         | N/A                | Various natural and man-made sources.  |

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   |
|---|-------------|----------------|---------------------|-------|------------|---|
| Aluminum (ppb)                                | 2020        | ND             | ND - 90             | 200   | 600        | Erosion of natural deposits; residue from some surface water treatment processes. |
| Chloride (ppm)                                | 2020        | 12             | 4.4 - 17            | 500   | N/A        | Runoff/leaching from natural deposits; seawater influence.                        |
| Color (Units)                                 | 2020        | 3              | ND - 11             | 15    | N/A        | Naturally-occurring organic materials.  |
| Iron (ppb)                                    | 2020        | ND             | ND - 230            | 300   | N/A        | Leaching from natural deposits; industrial wastes.                                |
| Manganese (ppb)                               | 2020        | 23             | ND - 93             | 50    | N/A        | Leaching from natural deposits.   |
| Odor (TON)                                    | 2020        | 29*            | ND - 120            | 3     | N/A        | Naturally-occurring organic materials.  |
| Specific Conductance ( S/cm)                  | 2020        | 290            | 79 - 598            | 1,600 | N/A        | Substances that form ions when in water; seawater influence.                      |
| sSulfate (ppm)                                | 2020        | 17             | 2.8 - 48            | 500   | N/A        | Runoff/leaching from natural deposits; industrial wastes                          |
| Total Dissolved Solids (ppm)                  | 2020        | 252            | 65 - 457            | 1,000 | N/A        | Runoff/leaching from natural deposits.  |
| Turbidity (NTU)                               | 2020        | 0.62           | ND - 2.8            | 5     | N/A        | Soil runoff.  |

2020 DRINKING WATER QUALITY

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the City. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows the City 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.

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT

| Violation | Explanation  | Duration   | Actions Taken to Correct the Violation   | Health Effects Language  |
|-----------|--|--|--|--|
| MCL       | Locational Running Annual Average (LRAA) for HAA5 exceeded the MCL | Fourth calendar quarter of 2020 (October-December) | Increased monitoring<br>New construction on chemical mixing and application processes<br>Replacement and cleaning of distribution reservoirs | Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. |

TABLE 6 - SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES

| Chemical or Constituent | Sample Date | Level Detected | Range of Detections | MCL                          | PHG | Typical Source of Contaminant |
|-------------------------|-------------|----------------|---------------------|------------------------------|-----|-------------------------------|
| Turbidity               | 2020        | 0.21 NTU       | N/A                 | TT = 1 NTU                   | N/A | Soil runoff.                  |
|                         |             | 100%           | N/A                 | TT = 95% of samples <0.3 NTU |     |                               |

(a) Treatment Technique (TT) = 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.

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.

**ND:** not detectable at testing limit

**NTU:** nephelometric turbidity unit

**ppm:** parts per million or milligrams per liter (mg/L)

**ppb:** parts per billion or micrograms per liter (µg/L)

**TON:** threshold odor number

**µS/cm:** microsiemens per centimeter or micromhos per centimeter