2017 ANNUAL DRINKING WATER QUALITY REPORT

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.
Where Does My Water Come From?

The City of Napa’s customers are fortunate because we enjoy an abundant water supply from three sources. Depending on which water treatment plant is in operation, the source water comes from: 1) Barker Slough in the Sacramento Delta via the North Bay Aqueduct (treated by the Edward I. Barwick Jamieson Canyon Water Treatment Plant), 2) Lake Hennessey (treated by the Hennessey Water Treatment Plant) and 3) Lake Milliken (treated by the Milliken Water Treatment Plant).

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.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals monitor the treatment process 24 hours a day, 7 days a week. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting inspections and detailed water tests using calibrated instruments and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Quality First

Once again we are pleased to present our drinking water quality report. A primary purpose of this drinking water quality report is to provide Napa’s water consumers with detailed information regarding where your water comes from, what it contains, and how it compares to Federal and State standards for the period January 1, 2017 -- December 30, 2017.

As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education, while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.
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. Unlike other regions of the U.S. where lead was prevalent, it was not the predominant construction material used in the City of Napa for water service installations. Additionally, years of monitoring show the existing public system pipe network does not contribute lead to the drinking water. The next lead and copper collection is scheduled for July 2018.

The City of Napa 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 or at www.epa.gov/lead.

For more information about this report, or for any questions relating to your drinking water, please call Erin Kebbas, Water Quality Manager, at (707) 253-0822. For questions concerning the City of Napa Water Division in general, please call (707) 257-9521. See our website for up-to-date information on programs: www.cityofnapa.org/water. For emergencies or customer use during weekends and holidays, please call (707) 253-4451.
Protecting our Watersheds

The City of Napa is devoted to protecting the land surrounding our local source waters in order to maintain the quality and purity of water used for your drinking water. In the long-term protecting our watersheds is one of the least costly and most important actions we can take to reduce the risk of unwanted constituents in our drinking water. Algal growth due to the presence of nutrients is the number one cause of taste and odor affecting your tap water. Nutrients in the watershed are increased artificially by wastewater systems as well as fertilizers and runoff from agricultural practices. Every five years, the City of Napa conducts Source Water Assessments to evaluate the quality of the water used as drinking water supply and to examine activities associated with the specific waterway and surrounding areas to determine their contribution to contamination.

These potential contributors are then compiled into a Vulnerability Summary. Results from the Vulnerability Summaries show the most significant potential sources of contaminants for the City of Napa’s source waters are:

Lake Hennessey (completed December 2017): Pacific Union College Wastewater Treatment Plant, vineyards, fires, invasive species, potential hazardous material spills due to traffic accidents (on Highway 128 near lake), septic tank systems (in close proximity to creeks) and grazing and wild animals.

Lake Milliken (completed December 2017): Fires, vineyards, grazing and wild animals.

Sacramento Delta (updated 2017): Recreational use, urban and agricultural runoff, grazing animals, herbicide application and seawater intrusion.

Copies of the complete assessments are available through the SWRCB DDW Santa Rosa District Office, 50 D Street, Suite 200, Santa Rosa, CA 95404 or Ms. Amy Little, Associate Sanitary Engineer, SWRCB at (707) 576-2145.
Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to consistently 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. Your water met all U.S. EPA and State standards in 2017.

### REGULATED SUBSTANCES

<table>
<thead>
<tr>
<th>SUBSTANCE (UNIT OF MEASURE)</th>
<th>MCL [MRDL]</th>
<th>PHG (MCLG)</th>
<th>AMOUNT DETECTED (LRAA) [RAA]</th>
<th>RANGE LOW-HIGH</th>
<th>IN COMPLIANCE</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bromate (ppb)</td>
<td>10</td>
<td>0.1</td>
<td>[2]</td>
<td>2–2</td>
<td>Yes</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Chlorine (ppm)</td>
<td>[4.0 (as Cl2)]</td>
<td>[4.0 (as Cl2)]</td>
<td>[0.77]</td>
<td>0.02–1.68</td>
<td>Yes</td>
<td>Drinking water disinfectant added for treatment</td>
</tr>
<tr>
<td>Control of DBP precursors [TOC] (removal ratio)</td>
<td>TT = &gt;1.0</td>
<td>NA</td>
<td>1.93</td>
<td>0.99–3.58</td>
<td>Yes</td>
<td>Various natural and man-made sources</td>
</tr>
<tr>
<td>HAAs [Haloacetic Acids]¹ (ppb)</td>
<td>60</td>
<td>NA</td>
<td>(31.3)</td>
<td>ND–38.0</td>
<td>Yes</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>TTHMs [Total Trihalomethanes]¹ (ppb)</td>
<td>80</td>
<td>NA</td>
<td>(76.8)</td>
<td>21.4–112.1</td>
<td>Yes</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Total Coliform Bacteria (positive samples)</td>
<td>Maximum % of positive samples: &lt;5.0</td>
<td>NA</td>
<td>2/1316 (0.15%)</td>
<td>Highest monthly % positive = 0.88%</td>
<td>Yes</td>
<td>Naturally present in the environment</td>
</tr>
</tbody>
</table>

### Filter Performance (Turbidity—the Standard Measure of Clarity in Water)

<table>
<thead>
<tr>
<th>SUBSTANCE (UNIT OF MEASURE)</th>
<th>MCL</th>
<th>PHG</th>
<th>AMOUNT DETECTED</th>
<th>IN COMPLIANCE</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity (NTU, highest detected measurement)</td>
<td>TT = 1.0</td>
<td>NA</td>
<td>0.524</td>
<td>Yes</td>
<td>Soil runoff</td>
</tr>
<tr>
<td>Turbidity (lowest % of samples &lt;0.3)</td>
<td>TT = Minimum 95% of samples each month &lt;0.3</td>
<td>NA</td>
<td>99.9</td>
<td>Yes</td>
<td>Soil runoff</td>
</tr>
</tbody>
</table>

### Tap Water Samples Collected for Copper and Lead Analyses from Sample Sites throughout the Community

<table>
<thead>
<tr>
<th>SUBSTANCE (UNIT OF MEASURE)</th>
<th>YEAR SAMPLED</th>
<th>AL</th>
<th>PHG (MCLG)</th>
<th>AMOUNT DETECTED (90TH% TIELE)</th>
<th>SITES ABOVE AL/TOTAL SITES</th>
<th>IN COMPLIANCE</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper (ppm)</td>
<td>2015</td>
<td>1.3</td>
<td>0.3</td>
<td>0.34</td>
<td>0/37</td>
<td>Yes</td>
<td>Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives</td>
</tr>
<tr>
<td>Lead (ppb)</td>
<td>2015</td>
<td>15</td>
<td>0.2</td>
<td>ND</td>
<td>1/37</td>
<td>Yes</td>
<td>Internal corrosion of household water plumbing systems; discharge from industrial manufacturers; erosion of natural deposits</td>
</tr>
</tbody>
</table>

### SECONDARY SUBSTANCES

<table>
<thead>
<tr>
<th>SUBSTANCE (UNIT OF MEASURE)</th>
<th>SMCL</th>
<th>PHG (MCLG)</th>
<th>AVERAGE</th>
<th>RANGE LOW-HIGH</th>
<th>IN COMPLIANCE</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride (ppm)</td>
<td>500</td>
<td>NS</td>
<td>14</td>
<td>8–25</td>
<td>Yes</td>
<td>Runoff/leaching from natural deposits; seawater influence</td>
</tr>
<tr>
<td>Specific Conductance (µS/cm)</td>
<td>1,600</td>
<td>NS</td>
<td>287</td>
<td>140–390</td>
<td>Yes</td>
<td>Substances that form ions when in water; seawater influence</td>
</tr>
<tr>
<td>Sulfate (ppm)</td>
<td>500</td>
<td>NS</td>
<td>49</td>
<td>16–78</td>
<td>Yes</td>
<td>Agricultural runoff/leaching from natural deposits; industrial wastes</td>
</tr>
<tr>
<td>Total Dissolved Solids (ppm)</td>
<td>1,000</td>
<td>NS</td>
<td>167</td>
<td>100–220</td>
<td>Yes</td>
<td>Runoff/leaching from natural deposits</td>
</tr>
</tbody>
</table>
## Definitions

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

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

**DBP:** Disinfection By-Product

**LRAA (Locational Running Annual Average):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for THM and HAAs are reported as the highest LRAAs.

**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.

**NL:** Notification level.

**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.

**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).

**removal ratio:** A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed. Must be greater than 1.0 to be in compliance.

**TT (Treatment Technique):** A performance standard intended to reduce the level of a contaminant in drinking water.

**TOC:** Total Organic Carbon

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1 Scientists cannot disprove that some people who drink water containing THMs and/or HAAs in excess of the MCL over many years (studies interpolate exposures to seventy years) may experience liver, kidney or central nervous system problems and may have an increased risk of getting cancer. These diseases, however, are not only caused by chemicals in drinking water, but also by food, air and other environmental factors.