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. More information about contaminants and potential health effects can be obtained by calling the USEPA’s Safe Drinking Water Hotline at 1-800-426-4791.

The sources of drinking water, both tap 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 USEPA and State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

Contaminants that may be present in our source water (pre-treated 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 disposal, and gas drilling, mining or farming.
- Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff and residential use.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also result from stormwater runoff and septic systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

Sodium and Hardness:
Sodium is a naturally occurring chemical element that is present in our source water. The level of sodium measured during 2019 was 6.9 ppm from our surface water source and an average of 8.6 ppm from our groundwater source.

Hardness of the water in our system depends on the seasonal source of supply and your service location within the District. The level of hardness measured during fall and winter of 2019 was 13 ppm and during spring and summer 2019 was 1.08 ppm from the ground. The hardness ranges from 54 ppm to 100 ppm depending on your location within the District.

Special Health Information:
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 on safe water practices for high-risk groups 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. The 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.

How to Read the Table:
1. Identify constituent in the left column.
2. Compare the detection range and averages to the Maximum Contaminant Level (MCL) and the Public Health Goal/Maximum Contaminant Level Goal (PHG/MCLG).

Table Definitions:
Maximum Table Level (MCL) – The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close as possible to the PHGs (or MCLGs) as economically and technologically feasible. Secondary MCLs are not enforceable as limits for drinking water. Maximum Contaminant Level Goal (MCLG) – The level of a constituent in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA. Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. MRDLs are set as close as possible to the level needed to protect against contamination by microorganisms. Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a disinfectant allowed in drinking water that is not expected to 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 any treatment technologies. 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. Regulatory Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Detected Primary Drinking Water Contaminants

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measure</th>
<th>MCL (MRL) [ppb]</th>
<th>PHG (MRDLG) [ppb]</th>
<th>Surface Water Average</th>
<th>Groundwater Range</th>
<th>Groundwater Average</th>
<th>Typical Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>turbidity, percent of time less than 0.1 NTU (a)</td>
<td>NTU</td>
<td>TT=95% of sample</td>
<td>N/A</td>
<td>100%</td>
<td>N/A</td>
<td>N/A</td>
<td>Soil Runoff</td>
</tr>
<tr>
<td>turbidity, maximum level found (a)</td>
<td>NTU</td>
<td>TT=1 NTU</td>
<td>N/A</td>
<td>0.02</td>
<td>0.10-0.29</td>
<td>0.17</td>
<td>Soil runoff</td>
</tr>
</tbody>
</table>

* Only surface water sources must comply with PDWS for turbidity.

Radioactive Contaminants (Sampled 2015)

<table>
<thead>
<tr>
<th>Gross Alpha Activity*</th>
<th>pCi/L</th>
<th>15</th>
<th>0</th>
<th>ND</th>
<th>ND-2.21</th>
<th>0.94</th>
<th>Erosion of natural deposits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uranium*</td>
<td>pCi/L</td>
<td>20</td>
<td>0.43</td>
<td>ND</td>
<td>ND-3.9</td>
<td>0.10</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

Detected Secondary Drinking Water Contaminants (regulated for aesthetic qualities)

<table>
<thead>
<tr>
<th>Total Dissolved Solids</th>
<th>ppm</th>
<th>1000</th>
<th>N/A</th>
<th>54</th>
<th>120-180</th>
<th>157</th>
<th>Runoff/leaching from natural deposits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Conductance</td>
<td>micromhos</td>
<td>1600</td>
<td>N/A</td>
<td>81</td>
<td>140-260</td>
<td>207</td>
<td>Substances that form ions when in water.</td>
</tr>
<tr>
<td>Chloride</td>
<td>ppm</td>
<td>500</td>
<td>N/A</td>
<td>2.6</td>
<td>3.8-6.5</td>
<td>5</td>
<td>Runoff/leaching from natural deposits</td>
</tr>
<tr>
<td>Sulfate</td>
<td>ppm</td>
<td>500</td>
<td>N/A</td>
<td>2.1</td>
<td>4.4-8.0</td>
<td>6.8</td>
<td>Runoff/leaching from natural deposits; industrial wastes</td>
</tr>
</tbody>
</table>

Other Unregulated Constituents of Interest

| Sodium | ppm | N/A | N/A | 6.0 | 6.9-10 | 8.6 | Naturally occurring salt in the water |
| Calcium | ppm | N/A | N/A | 6.5 | 11-20 | 16.3 | Erosion of natural deposits |
| Hardness | ppm | N/A | N/A | 26 | 34-100 | 82 | The sum of pentavalent cations present, generally naturally occurring magnesium and calcium |
| Magnesium | ppm | N/A | N/A | 2.4 | 6.7-13 | 10.2 | Erosion of natural deposits |

Organic Samples from the Distribution System

| Nitrate (as N) | ppm | 10 | 0 | ND | ND-4.4-1.9 | 1.0 | Runoff and leaching from fertilizer use; runoff from septic tanks; erosion of natural deposits |

Water Quality Measurement Units:
- Micromhos – A measurement of the concentration of a substance called dissolved solids.
- ppm (parts per million) – A measurement of the concentration of a substance roughly equivalent to 1 part in 1 million, or 1 ppm. ppm is commonly used in describing the purity of liquids, and is comparable to ppb.
- pCi/L (picocuries per liter) – A measurement of radioactivity.

The District has taken hundreds of water samples in order to determine the presence of any contaminants. This is a table of detected contaminants. The intent is to give you an idea of where the District stands with regard to water quality standards set by the State Board and the USEPA. The State Board allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Detected Secondary Drinking Water Contaminants

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measure</th>
<th>AL</th>
<th>PHG</th>
<th>90th Percentile</th>
<th>No of sites exceeding AL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine Residual</td>
<td>ppm</td>
<td>[4]</td>
<td>[4]</td>
<td>0.51-1.08</td>
<td>0.83</td>
</tr>
<tr>
<td>THM (Total Trihalomethanes)(b)</td>
<td>ppb</td>
<td>80</td>
<td>N/A</td>
<td>1-32</td>
<td>16</td>
</tr>
<tr>
<td>HAA5 ( Haloacetic Acids)(b)</td>
<td>ppm</td>
<td>60</td>
<td>N/A</td>
<td>ND-18</td>
<td>10</td>
</tr>
<tr>
<td>TOC (Total Organic Carbon) (c)</td>
<td>ppm</td>
<td>TT</td>
<td>N/A</td>
<td>N/A</td>
<td>0.82</td>
</tr>
</tbody>
</table>

(b) based on the running annual average, (c) raw water

Copper (Sampled 2017)

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measure</th>
<th>AL</th>
<th>PHG</th>
<th>90th Percentile</th>
<th>No of sites exceeding AL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>ppm</td>
<td>1.3</td>
<td>0.17</td>
<td>0.18</td>
<td>0</td>
</tr>
</tbody>
</table>

Erosion of naturally occurring copper from household plumbing systems; erosion of natural deposits

Surface water samples collected in 2019. Groundwater samples collected in 2017. NDMA, Perchlorate, & VOCs are proactively sampled quarterly.
Carmichael Water District

2019 Annual Water Quality Report

This report contains important information about your drinking water.

High Quality Drinking Water is Carmichael Water District’s Top Priority

Demonstrating their commitment to public health protection and the public’s right-to-know about local environmental information, the USEPA and the State Board require water suppliers to provide annual drinking water quality reports to its customers. This publication summarizes the most recent testing and includes a comparison of detectable contaminants in your drinking water against established federal and state standards.

This year’s report concludes that, once again, your drinking water meets or exceeds all federal and state drinking water standards.

Where Does Our Water Come From?

The District’s approximately 38,000 customers receive on average 75 percent of their water from the American River (surface water) and 25 percent from District groundwater wells. Since the expansion of the water treatment plant in 2008, the District has reduced the number of groundwater sources from 3 primary wells. The wells are operated seasonally, May through September. Our water is tested for more than 140 contaminants on a regular basis. Water samples are subject to the most up-to-date testing methods and then are retested for accuracy. Samples are then measured against state and federal standards to ensure quality.

The State Board requires water providers to conduct a Source Water Assessment to help protect the quality of future water supplies. This assessment describes where a water system’s drinking water comes from, the types of polluting activities that may threaten source water quality and an evaluation of the water’s vulnerability to those threats.

Groundwater and Surface Water Assessment

To meet the State Board requirements and provide our customers with information about our water supply, the District completed the American River Watershed Sanitary Survey in 2019. The results indicate that our surface water source, the American River, is considered most vulnerable to contamination from sewage system spills, body contact, recreation, erosion, urban runoff and industrial discharge of regulated and unregulated contaminants.

The groundwater sources are considered most vulnerable to contamination from illegal activities and unauthorized dumping, sewer collection systems, dry cleaners, automobile repair shops, chemical/petroleum pipelines, electrical/electronic manufacturing, underground storage tanks and gas stations. The contaminants to which groundwater sources are considered most vulnerable include the following: dry cleaning solvent (PCE) and gasoline additive (MTBE), liquid rocket fuel (NDMA) and rocket fuel propellant (perchlorate) originating from the Aerojet Rocketdyne (Aerojet) superfund site. Aerojet is under the joint regulatory oversight of the USEPA, California Department of Toxic Substance Control and the California Regional Water Quality Control Board.

Groundwater Protection Zones

The District is responsible for creating several groundwater protection zones. These zones prevent certain activities that may threaten the water supplies. Other activities are allowed in the zones under specific conditions. In 2019, the District created the following groundwater protection zones:

1. The detection zone
2. The release zone
3. The management zone
4. The evaluation zone

Both the release and management zones require monitoring of the water quality in the groundwater sources. The results indicate that our groundwater sources are not affected by the COVID-19 virus, and the District will continue to serve our community 24/7. Additional information is available at our website, www.carmichaelwd.org, or call us at (916) 483-2452.

Source Water Protection Tips

Protection of drinking water is everyone’s responsibility. You can help protect your community’s drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Dispose of medications properly; utilize medicine take-back programs.

Public Meetings

The Carmichael Water District Board of Directors typically meets at 6:00 pm on the third Monday of each month at the Carmichael Water District office. Meeting dates and times are posted at our website. The public is welcome to attend.

COVID-19 Information

Carmichael Water District’s (District) top priority is to ensure the safety of our employees and customers as we face the evolving situation involving the COVID-19 virus. Customers should be assured that our water supplies are not affected by the COVID-19 virus, and the District will continue to serve our community 24/7. Additional information is available at our website, www.carmichaelwd.org, or call us at (916) 483-2452.

Copies of the complete Source Water Assessment and Sanitary Survey are available for inspection at the Carmichael Water District (District) office, 7837 Fair Oaks Blvd., Carmichael, CA, 95608. You may request a summary of the assessment be sent to you by contacting the District at (916) 483-2452.

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2019 Water Quality Report