**What’s In Our 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 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 with tap water include: rivers, lakes, wells, springs, ponds, reservoirs, 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 have 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 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 wastewater discharges, and 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 by-products of industrial processes and petroleum production, and that can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

### How to Read the Table:

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

**Table Definitions:**

**Maximum Contaminant Level (MCL)** – The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PCLGs as 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 USEPA.

**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 disinfectants to control microbial contaminants.

**Primary Drinking Water Standards (PWS)** – MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

**Public Health Goal (PHG)** – The level of a contaminant in drinking water below which 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.

**Secondary Drinking Water Standards (SDWS)** – MCLs for contaminants that affect taste, odor or appearance of the drinking water. SDWS do not affect health at the MCL levels.

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

**Not Applicable (N/A)**

**None Detected (ND)** – Analyzed, not detectable at testing limit.

### Water Quality Measurement Units:

**Microhoms** – A measure of the ability of water to conduct electricity.

**NTU (Nephelometric Turbidity Unit)** – A measure of water’s clarity.

**TTHM (Total Trihalomethanes)**

**HAAS (Haloacetic Acids)**

**TOC (Total Organic Carbon)**

### Detected Primary Drinking Water Contaminants

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measurement</th>
<th>MCL [MCLG]</th>
<th>MCLG (MCLG)</th>
<th>Surface Water Average</th>
<th>Groundwater Range</th>
<th>Groundwater Average</th>
<th>Typical Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Microbial contaminants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turbidity, percent of time less than 0.1 NTU (a)</td>
<td>NTU</td>
<td>TT=95% of sample C0</td>
<td>N/A</td>
<td>100%</td>
<td>N/A</td>
<td>N/A</td>
<td>Soil Runoff</td>
</tr>
<tr>
<td>Turbidity, max level found (a)</td>
<td>NTU</td>
<td>TT=1 NTU</td>
<td>N/A</td>
<td>0.03</td>
<td>0.10-0.29</td>
<td>0.17</td>
<td>Soil runoff</td>
</tr>
</tbody>
</table>

(a) only surface water sources must comply with PWS for turbidity

**Radioactive Contaminants (2015)**

| Gross Activity A | pCi/L | 15 | 0 | ND | ND-2.21 | 0.94 | Erosion of natural deposits |
| Uranium A | pCi/L | 0.43 | 20 | ND | ND-3.9 | 0.10 | Erosion of natural deposits |

| **Inorganic Contaminants** | | | | | | | |
| Barium | ppm | 2 | 0.013 | ND | 0.072 | 0.04 | Erosion of natural deposits |
| Nitrate (as N) | ppm | 10 | 10 | ND | 0.44-1.9 | 1.0 | Runoff and leaching from fertilizer use; naturally occurring nitrate |

### Detected Secondary Drinking Water Contaminants (regulated for aesthetic qualities)

| Total Dissolved Solids | ppm | 1000 | N/A | N/A | 120-180 | 157 | Runoff/leaching from natural deposits |
| Specific Conductance | micromhos | 1600 | N/A | 81 | 140-260 | 207 | Substances that form ions when in water |
| Chloride | ppm | 500 | N/A | 2.9 | 3.8-6.5 | 5 | Runoff/leaching from natural deposits; industrial wastes |
| Sulfate | ppm | 500 | N/A | 2.7 | 4.8-8.0 | 6.8 | Runoff/leaching from natural deposits; industrial wastes |

### Other Unregulated Constituents of Interest

| Sodium | ppm | N/A | N/A | 2.7 | 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 | 25 | 54-100 | 82 | The sum of polyvalent cations present, generally naturally occurring magnesium and calcium |
| Magnesium | ppm | N/A | N/A | 2.2 | 6.7-13 | 10.2 | Erosion of natural deposits |

### Organic Samples from the Distribution System

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measurement</th>
<th>MCL [MCLG]</th>
<th>MCLG (MCLG)</th>
<th>Range</th>
<th>Average</th>
<th>Typical Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine Residual</td>
<td>ppm</td>
<td>[4]</td>
<td>[4]</td>
<td>0.37-1.48</td>
<td>0.82</td>
<td>Drinking water disinfectant added for treatment</td>
</tr>
<tr>
<td>TTHM (Total Trihalomethanes) (a)</td>
<td>ppm</td>
<td>80</td>
<td>N/A</td>
<td>ND-39</td>
<td>19</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>HAAS (Haloacetic Acids) (b)</td>
<td>ppm</td>
<td>60</td>
<td>N/A</td>
<td>ND-20</td>
<td>11</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>TOC (Total Organic Carbon)</td>
<td>ppm</td>
<td>TT</td>
<td>N/A</td>
<td>N/A</td>
<td>0.86</td>
<td>Various natural and manmade sources</td>
</tr>
</tbody>
</table>

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

### Copper

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Unit of Measurement</th>
<th>AL</th>
<th>PHG</th>
<th>90th Percentile</th>
<th>No of sites exceeding AL</th>
<th>Typical Source</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>
<td>Internal corrosion of household plumbing systems; erosion of natural deposits</td>
</tr>
</tbody>
</table>

In 2018, one (1) school requested lead sampling.

Surface water samples collected in 2018. Groundwater samples collected in 2017. NDMA, Perchlorate, & VOCs are proactively sampled quarterly.
2018 Annual Water Quality Report

Carmichael Water District
2018 Annual Water Quality Report

This report contains important information about your drinking water.

Public Meetings
The Carmichael Water District Board of Directors typically meets at 7:00 pm on the third Monday of each month at the Carmichael Water District office. Meeting dates and times are posted on our website. The public is welcome to attend.

Water Efficiency
Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Our website, www.carmichaelwd.org, is the best place for information regarding tips and our free water efficiency programs. If you prefer you can call our office 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.
- Pick up after your pets.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Dispose of medications properly; take use of medicine take-back programs.

About This Report
In 2018, as in years past, Carmichael Water District (District) met all U.S. Environmental Protection Agency (USEPA) and State Water Resources Control Board (State Board) drinking water health standards. The District routinely tests for over 140 contaminants to ensure safe and healthy drinking water for our customers. Once again, we are proud to report that our system has not violated any maximum contaminant level (MCL) or any other water quality standards. This brochure is a snapshot of the District’s 2018 water quality. Also included are details about where your water comes from, what it contains, and how it compares to State Board standards.

While the District is required to list only those contaminants detected at a threshold level as determined by state and federal regulations in this report, a complete listing of all tested contaminants is available in the District’s Annual Water Quality Report. The 2018 Annual Water Quality Report is available on our website, www.carmichaelwd.org or at our main office.

High Quality Drinking Water is Carmichael Water District’s Top Priority
Demonstrating its 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 37,897 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 to 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 sewer system spills, body contact, recreation, urban runoff and discharge of regulated and unregulated contaminants. The contaminants to which the surface water sources are considered most vulnerable include the following: perchlorate, nitrosomodemethylamine (NDMA) and volatile organic chemicals discharged into the American River by the Aerojet Rocketdyne (Aerojet). Aerojet is under the joint regulatory oversight of the USEPA, California Department of Toxic Substance Control and the California Regional Water Quality Control Board.

The groundwater sources are considered most vulnerable to contamination from illegal activities and unauthorized dumping, sewer collection systems, dry cleaners, automobile repair shops, chemical/potential pipelines, electrical/electronic manufacturing, underground storage tanks and gas stations. The contaminants to which groundwater sources are considered most vulnerable include the following: liquid rocket fuel (NDMA), rocket fuel propellant (perchlorate), dry cleaning solvent (PCE), and gasoline additive (MTBE).