

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, 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 CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH 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, 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 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.

Special 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 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 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).

• 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. Carmichael Water 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. 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 their website at <http://www.epa.gov/safewater/lead>.

Sodium and Hardness:

Sodium is a naturally occurring chemical element that is present in our source water. The level of sodium measured during 2012 was 6.4 ppm from our surface water source and an average of 8.5 ppm from our groundwater source.

Hardness of the water in our system depends on your location within the District and the season due to the source of supply. The level of hardness measured during fall and winter of 2012 was 23 ppm which classifies the water in the "soft" category based on water quality standards. During spring and summer 2012 when we supplement with groundwater, the hardness ranges from **71 ppm to 110 ppm** depending on your location within the District. Any increase in groundwater will classify the water between "soft" and "hard".

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 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 (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 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.

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.

Secondary Drinking Water Standards (SDWS) – MCLs for contaminants that affect taste, odor or appearance of the drinking water. Contaminants with 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:

Micromhos – A measure of the ability of water to conduct electricity.

NTU (Nephelometric Turbidity Units) – A measure of water's clarity. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion) – A measurement of the concentration of a substance roughly equivalent to one drop in one of the largest tanker trucks used to haul gasoline or one part in 1,000,000,000.

ppm (parts per million) – A measurement of the concentration of a substance roughly equivalent to 4 drops in 55 gallons or one part in 1,000,000.

The District has taken hundreds of water samples in order to determine the presence of any constituents. This is a table of detected constituents. The intent is to give you an idea of where the District stands with regard to water quality standards set by the California Department of Public Health and the U.S. Environmental Protection Agency. The State 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 Primary Drinking Water Constituents

Constituent	Unit of Measure	MCL [MRDL]	PHG (MCLG) [MRDLG]	Surface Water Average	Ground-water Range	Ground-water Average	Typical Source
Microbiological constituents							
Total Coliform Bacteria	% of tests positive	5%	Zero	< 1%	ND	ND	Naturally present in the environment
Turbidity, percent of time less than 0.1 NTU (a)	NTU	TT=95% of sample <0.1	N/A	100%	N/A	N/A	Soil Runoff
Turbidity, max level found (a)	NTU	TT=1 NTU	N/A	0.03	ND-.10	0.10	Soil runoff
(a) only surface water sources must comply with PDWS for turbidity							
Inorganic Constituents							
Barium	ppm	1	2	ND	ND-0.078	0.026	Erosion of natural deposits
Fluoride	ppm	2	1	ND	0.10-0.12	0.11	Erosion of natural deposits
Nitrate (as NO ₃)	ppm	45	45	ND	4.4-6.7	5.6	Runoff and leaching from fertilizer use; leaching from septic tanks; erosion of natural deposits
Organic Constituents							
Tetrachloroethylene(PCE)	ppb	5	0.06	ND	ND-2.0	1.1	Discharge from factories, dry cleaners and auto shops (metal degreaser)

Detected Secondary Drinking Water Constituents (regulated for aesthetic qualities)

Constituent	Unit of Measure	MCL [MRDL]	PHG (MCLG) [MRDLG]	Surface Water Average	Ground-water Range	Ground-water Average	Typical Source
Odor Threshold	units	3	N/A	1	ND	ND	Naturally occurring organic materials
Total Dissolved Solids	ppm	1000	N/A	34	130-210	170	Runoff/leaching from natural deposits
Specific Conductance	micromhos	1600	N/A	76	180-250	203	Substances that form ions when in water
Chloride	ppm	500	N/A	2.9	5.2-6.4	5.6	Runoff/leaching from natural deposits
Sulfate	ppm	500	N/A	2.3	6.1-8.1	7.3	Runoff/leaching from natural deposits; industrial wastes

Other Unregulated Constituents of Interest

Constituent	Unit of Measure	MCL [MRDL]	PHG (MCLG) [MRDLG]	Surface Water Average	Ground-water Range	Ground-water Average	Typical Source
Sodium	ppm	N/A	N/A	6.4	7.2-10	8.5	Naturally occurring salt in the water
Calcium	ppm	N/A	N/A	6	14.0-21.0	17.6	Erosion of natural deposits
Hardness	ppm	N/A	N/A	23	71-110	92	The sum of polyvalent cations present, generally naturally occurring magnesium and calcium
Magnesium	ppm	N/A	N/A	1.9	8.7-13	11.2	Erosion of natural deposits

Organic Samples from the Distribution System

Constituent	Unit of Measure	MCL [MRDL]	PHG (MCLG) [MRDLG]	Range	Average	Typical Source
Chlorine Residual	ppm	[4]	[4]	0.27-1.05	0.84	Drinking water disinfectant added for treatment
TTHM (Total Trihalomethanes)(b)	ppb	80	N/A	ND-16	8.8	By-product of drinking water disinfection
HAA5 (Haloacetic Acids)(b)	ppb	60	N/A	ND-21	7.4	By-product of drinking water disinfection

(b) based on the running annual average

Lead & Copper (Sampled 2011)

Constituent	Unit of Measure	AL	PHG	90th Percentile	No of sites exceeding AL	Typical Source
Lead	ppb	15	0.2	ND	1	Internal corrosion of household plumbing systems; erosion of natural deposits
Copper	ppm	1.3	0.17	0.055	Zero	Internal corrosion of household plumbing systems; erosion of natural deposits

Surface water samples collected in 2012. Groundwater samples collected in 2012 except Fluoride & TDS 2011.

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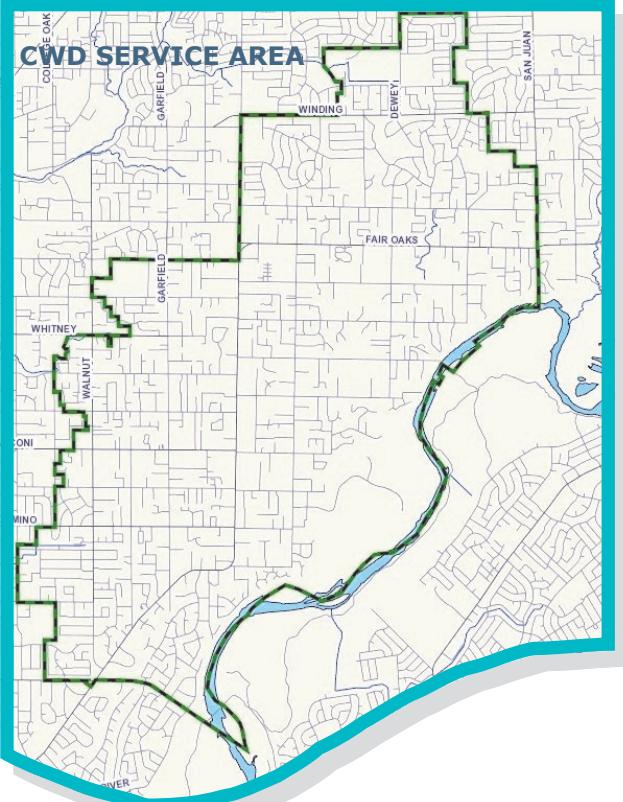
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**CARMICHAEL WATER DISTRICT
2012 Consumer Confidence Report**



This report contains important information about your drinking water.

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

A copy of the complete Source Water Assessment is available for inspection at the Carmichael Water District (CWD) office, 7837 Fair Oaks Blvd., Carmichael, CA, 95608. You may request a summary of the assessment be sent to you by contacting the District's Public Information Officer Chris Nelson at (916)483-2452.

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 are posted at our website. The public is welcome to attend.

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**CARMICHAEL WATER DISTRICT
2012 Water Quality**



**Testing Program Shows
Carmichael Water District's
Drinking Water is Safe and Healthy**

Demonstrating its commitment to public health protection and the public's right-to-know about local environmental information, the U.S. Environmental Protection Agency (USEPA) and California Department of Public Health (CDPH) 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 constituents 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.

Water Efficiency Tips

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. Small changes can make a big difference, try one today and soon it will become second nature.

- Take short showers—a 5 minute shower uses 4-5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead and save up to 750 gallons a month.
- Fix leaking toilets and faucets. Fixing or replacing a leaking toilet can save up to 1,000 gallons a month.
- Adjust sprinklers so only your landscape is watered. Apply water only as fast as the soil can absorb it. Applying water during the cool parts of the day will reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely.
- Visit our website at www.carmichaelwd.org for more information on our conservation programs.

Where Does Our Water Come From?

Carmichael Water District's (District) approximately 38,354 customers receive on average approximately 84 percent of their water from the American River (surface water) and 16 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 three primary wells. The wells are operated seasonally, May through September. The water is tested for more than 200 constituents on a regular basis. Water samples are subject to the most up-to-date testing methods and then are re-tested for accuracy. Samples are then measured against state and federal standards to ensure quality.

The CDPH 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 CDPH requirements and provide our customers with information about our water supply, the District completed the American River Watershed Sanitary Survey in 2008.

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, nitrosomodimethylamine (NDMA) and volatile organic chemicals discharged into the American River by the Aerojet General Corporation. 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/petroleum 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).