



# ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2014



***Presented By***  
**City of Sonoma**



## Our Mission Continues

We are proud to present once again our annual water quality report covering all testing performed between January 1 and December 31, 2014. Most notably, last year marked the 40th anniversary of the Safe Drinking Water Act (SDWA). This rule was created to protect public health by regulating the nation's drinking water supply. We celebrate this milestone as we continue to manage our water system with a mission to deliver the best-quality drinking water. By striving to meet the requirements of SDWA, we are ensuring a future of healthy, clean drinking water for years to come.

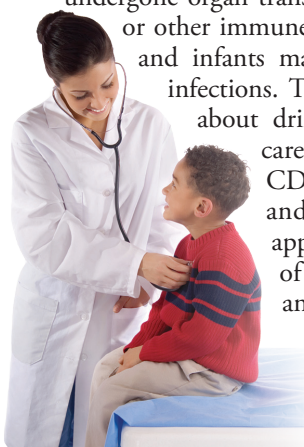
Please let us know if you ever have any questions or concerns about your water.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The City Council meets the first and third Mondays of each month beginning at 6 p.m. at the Community Meeting Room, located at 177 First St. West, Sonoma CA. For further information about City Council meetings, please contact City Hall at (707) 938-3681.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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>.



## 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. State Board regulations also establish limits for contaminants in bottled water that must 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, that are by-products of industrial processes and petroleum production and 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. We are responsible for providing high-quality drinking water, but we 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 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## To the Last Drop

The National Oceanic and Atmospheric Administration (NOAA) defines drought as a deficiency in precipitation over an extended period of time, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people. Drought strikes in virtually all climate zones, from very wet to very dry.

There are primarily three types of drought: Meteorological Drought refers to the lack of precipitation, or the degree of dryness and the duration of the dry period; Agricultural Drought refers to the agricultural impact of drought, focusing on precipitation shortages, soil water deficits, and reduced ground water or reservoir levels needed for irrigation; and Hydrological Drought, which pertains to drought that usually occurs following periods of extended precipitation shortfalls that can impact water supply (i.e., stream flow, reservoir and lake levels, ground water).

Drought is a temporary aberration from normal climatic conditions; thus it can vary significantly from one region to another. Although normally occurring, human factors, such as water demand, can exacerbate the duration and impact that drought has on a region. By following simple water conservation measures, you can help significantly reduce the lasting effects of extended drought.

To learn more about water conservation efforts, check out the U.S. EPA's Water Conservation Tips for Residents at [www.epa.gov/region1/eco/drinkwater/water\\_conservation\\_residents.html](http://www.epa.gov/region1/eco/drinkwater/water_conservation_residents.html).

## What Are PPCPs?

When cleaning out your medicine cabinet, what do you do with your expired pills? Many people flush them down the toilet or toss them into the trash. Although this seems convenient, these actions could threaten our water supply.

Recent studies are generating a growing concern over pharmaceuticals and personal care products (PPCPs) entering water supplies. PPCPs include human and veterinary drugs (prescription or over-the-counter) and consumer products, such as cosmetics, fragrances, lotions, sunscreens, and household cleaning products. From 2006 to 2010, the number of U.S. prescriptions increased 12 percent to a record 3.7 billion, while nonprescription drug purchases held steady around 3.3 billion. Many of these drugs and personal care products do not biodegrade and may persist in the environment for years.

The best and most cost-effective way to ensure safe water at the tap is to keep our source waters clean. Never flush unused medications down the toilet or sink. Instead, check to see if the pharmacy where you made your purchase accepts medications for disposal, or contact your local health department for information on proper disposal methods and drop-off locations. You can also go on the Web ([www.earth911.com/recycling-guide/how-to-recycle-unwanted-or-expired-medications](http://www.earth911.com/recycling-guide/how-to-recycle-unwanted-or-expired-medications)) to find more information about disposal locations in your area.

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Steve MacCarthy, Water Operations Supervisor, at (707) 933-2231.

## Source Water Assessment

In 2004, the City conducted a thorough Source Water Assessment of the City's municipal groundwater wells. According to the assessments, all sites are in compliance with federal safe drinking water guidelines. A complete copy of the Source Water Assessment may be viewed at City Hall, #1 The Plaza, Sonoma, CA.

## Where Does My Water Come From?

The City of Sonoma water customers are fortunate because we enjoy a safe, reliable water supply from two sources. The City's primary source is water purchased from the Sonoma County Water Agency (SCWA), whose source of supply is five Ranney Collectors (or caissons) located in the gravels adjacent to the Russian River, seven production wells, and, to a minor degree, from three wells in the Santa Rosa plain. The river originates in central Mendocino County, approximately 15 miles north of the City of Ukiah. The main channel of the river is approximately 110 miles long and flows southward from its headwaters near Potter Valley to the Pacific Ocean near Jenner, about 20 miles west of the City of Santa Rosa.

Our secondary water source consists of six City groundwater wells, which are capable of producing a combined total of approximately 1.5 million gallons of water a day. The City of Sonoma uses these wells as a supplementary supply. The wells are ready for production when there is a need to augment SCWA deliveries during periods of high use, typically during the hot summer months, and for other water-related emergencies that can develop. In 2014, the City of Sonoma Water Department purchased 619 million gallons of water from the SCWA, and, in addition, the City produced 50.4 million gallons from its groundwater wells during the months of January through September. Once the water has been purchased or produced, it enters the City's distribution system, which includes more than 56 miles of water main, 4,470 service connections, five storage tanks, two pumping stations, and six wells, one of which is standby. In order to provide a high level of customer service, our water utility personnel monitor water levels in the City's storage tanks, operate City wells, sample its wells and distribution system for laboratory analysis, install new service connections and meters, read customers' meters for billing, and maintain and repair the water system as needed. We would like to thank you for your continued efforts to help us continue our water efficiency efforts. This year we will be asking our customers to use water wisely, especially during hot summer months, and to utilize the conservation resources available to our residents.

## Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often 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.

We participated in and completed the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality.

REGULATED SUBSTANCES									
				City of Sonoma		SCWA			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2014	1,000	600	20.45 <sup>1</sup>	ND–110	ND	NA	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic <sup>2</sup> (ppb)	2014	10	0.004	7.2	5.5–8.6	1.67	ND–6	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride <sup>3</sup> (ppm)	2014	2.0	1	0.38	0.23–0.5	ND	NA	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/l)	2007	2.0	1	0.58 <sup>4</sup>	ND–1.47 <sup>4</sup>	0.3 <sup>5</sup>	ND–1.36 <sup>5</sup>	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids (HAAs)–Stage 1 (ppb)	2014	60	NA	2.9	2.8–3.0	4.99	ND–8.3	No	By-product of drinking water disinfection
Hexavalent Chromium <sup>6</sup> (ppb)	2014	10	0.02	0.56	ND–0.94	0.31	ND–0.70	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as nitrate] (ppm)	2014	45	45	1.5	ND–5.6	ND	NA	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radium 228 (pCi/L)	2007	5	0.019	0.87 <sup>4</sup>	ND–1.79 <sup>4</sup>	0.02 <sup>7</sup>	ND–0.136 <sup>7</sup>	No	Erosion of natural deposits
TTHMs [Total Trihalomethanes]–Stage 1 (ppb)	2014	80	NA	21.5	21–22	19	17–22	No	By-product of drinking water disinfection
Tap water samples were collected for lead and copper analyses from sample sites throughout the community									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE		
Copper (ppm)	2014	1.3	0.3	0.064	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives		
Lead (ppb)	2014	15	0.2	2	0/30	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits		

## SECONDARY SUBSTANCES

				City of Sonoma		SCWA			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Aluminum</b> (ppb)	2014	200	NS	20.45	ND–110	ND	NA	No	Erosion of natural deposits; residual from some surface water treatment processes
<b>Chloride</b> (ppm)	2014	500	NS	8.06	5.1–12	9.2	4.9–23	No	Runoff/leaching from natural deposits; seawater influence
<b>Specific Conductance</b> (µS/cm)	2014	1,600	NS	221.6	190–270	234	210–260	No	Substances that form ions when in water; seawater influence
<b>Sulfate</b> (ppm)	2014	500	NS	5.72	2.9–9.9	8.5	2.3–12	No	Runoff/leaching from natural deposits; industrial wastes
<b>Total Dissolved Solids</b> (ppm)	2014	1,000	NS	221.6	200–260	159	130–210	No	Runoff/leaching from natural deposits
<b>Turbidity</b> (NTU)	2014	5	NS	0.75	ND–1.6	0.08	ND–2	No	Soil runoff
<b>Zinc</b> (ppm)	2014	5.0	NS	0.11	ND–0.29	ND	NA	No	Runoff/leaching from natural deposits; industrial wastes

## UNREGULATED AND OTHER SUBSTANCES

				City of Sonoma		SCWA	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
<b>Calcium</b> (ppm)	2014	9.3	3.9–14	18.3	13–21		
<b>Chlorate</b> <sup>8</sup> (ppb)	2014	9.4	ND–43	NA	NA		
<b>Chromium</b> <sup>8</sup> (ppb)	2014	0.41	ND–0.66	NA	NA		
<b>Chromium VI [Hexavalent Chromium]</b> <sup>6</sup> (ppb)	2014	0.56	ND–0.94	0.31	ND–0.70		
<b>Magnesium</b> (ppm)	2014	5.1	1.2–7.7	9.4	2.3–13		
<b>Molybdenum</b> (ppb)	2014	1.91	ND–2.8	NA	NA		
<b>pH</b> (Units)	2014	7.25	6.9–8.1	7.7	7.3–8.5		
<b>Sodium</b> (ppm)	2014	25.3	18–44	17.8	8–41		
<b>Strontium</b> <sup>8</sup> (ppb)	2014	75	26–200	NA	NA		
<b>Total Hardness</b> (ppm)	2014	44.8	14–64	85	43–106		
<b>Vanadium</b> <sup>8</sup> (ppb)	2014	12.6	ND–24	NA	NA		

<sup>1</sup> City Well #6 is sampled quarterly for Aluminum.

<sup>2</sup> While your drinking water meets the federal and State standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

<sup>3</sup> City Well #6 sampled in 2014.

<sup>4</sup> Well 2 sampled in 2013

<sup>5</sup> Year sampled in 2014

<sup>6</sup> Results from State sampling requirement and UCMR3 sampling.

<sup>7</sup> Year sampled in 2006

<sup>8</sup> Results from UCMR3 sampling.

## Definitions

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

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

**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.

**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.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**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).