

What Does Our Water Contain?

Under the Title 22 California Code of Regulations, all public water systems are required to sample their source and treated water for biological, inorganic, organic, and radioactive constituents. The California Department of Public Health allows systems to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. All source waters, except for one well, were sampled in 2011 for general minerals, inorganic chemicals, organic chemicals, and general physical characteristics. Only those constituents that were detected are listed below.

Definitions

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

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.

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): The standard unit for turbidity measurements.

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).

SMCL (Secondary MCL): SMCLs are set to protect the odor, taste, and appearance of drinking water.

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

DETECTION OF A CONSTITUENT WITH A PRIMARY DRINKING WATER STANDARD	UNITS	REGULATORY LIMITS		CITY OF DAVIS GROUNDWATER		POTENTIAL SOURCE OF CONSTITUENT	
		MCL [MRDL]	PHG or (MCLG) [MRDLG]	RANGE DETECTED	WEIGHTED AVERAGE		
Arsenic	ppb	10	0.004	<2.0 - 7.0	2.6	Erosion from natural deposits	
Barium	ppm	1	2	<0.05 - 0.24	0.08	Erosion from natural deposits	
Total Chromium	ppb	50	(100)	<0.1 - 40	11.3	Erosion from natural deposits	
Fluoride	ppm	2	1	<0.1 - 0.3	0.15	Erosion from natural deposits	
Nickel	ppb	100	12	<10 - 61	<10	Erosion from natural deposits	
Nitrate (as NO ₃)	ppm	45	45	<3.0 - 41	10.4	Runoff from fertilizer use, leaching from septic tanks and sewage, erosion from natural deposits	
Selenium	ppb	50	30	<2.0 - 36	6.1	Erosion from natural deposits	
ORGANIC COMPOUNDS							
Chloroform	ppb	80	NS	<0.5 - 1.6	<0.50	By-product of water chlorination	
RADIOACTIVE CONSTITUENTS (SAMPLED IN 2007 AND 2009)							
Gross Alpha	pCi/L	15	(0)	0.17 - 5.49	2.3	Erosion from natural deposits	
Radium - 228	pCi/L	5	0.019	ND - 2.02	0.5	Erosion from natural deposits	
Radium - 226	pCi/L	5	0.05	ND - 0.0839	ND	Erosion from natural deposits	
Uranium	pCi/L	20	0.43	0.10 - 5.09	4.1	Erosion from natural deposits	
SAMPLED FROM THE DISTRIBUTION SYSTEM	DISINFECTION BY-PRODUCTS						
	Total Trihalomethanes	ppb	80	NS	<0.50 - 0.7	NA	By-product of water chlorination
	Total Haloacetic Acids	ppb	60	NS	<0.50 - 1.4	NA	By-product of water chlorination
	Residual Chlorine	ppm	[4.0]	[4.0]	0.01 - 0.80	NA	By-product of water chlorination
	MICROBIOLOGICAL RESULTS						
Total Coliform Bacteria	% POSITIVE	MCL	MCLG	SAMPLES COLLECTED	POTENTIAL SOURCE OF CONSTITUENT		
	0%	5%	0%	936	Naturally present in the environment		
DETECTION OF A CONSTITUENT WITH A SECONDARY DRINKING WATER STANDARD							
	UNITS	SMCL	PHG	RANGE DETECTED	WEIGHTED AVERAGE	POTENTIAL SOURCE OF CONSTITUENT	
Chloride	ppm	250	NS	12 - 150	43	Erosion from natural deposits	
Copper	ppb	1000	NS	<5 - 24	5.3	Erosion from natural deposits	
Iron	ppb	300	NS	<50 - 71	<50	Erosion from natural deposits	
Manganese	ppb	50	NS	<10 - 72	13.4	Erosion from natural deposits	
Specific Conductance	µS/cm	1600	NS	490 - 1700	853	Substances that form ions when in water	
Sulfate	ppm	500	NS	21 - 270	66	Erosion from natural deposits	
Total Dissolved Solids	ppm	1000	NS	270 - 980	498	Erosion from natural deposits	
Zinc	ppb	5000	NS	<50 - 120	<50	Erosion from natural deposits	
DETECTION OF A CONSTITUENT WITHOUT A DRINKING WATER STANDARD							
	UNIT	RANGE DETECTED	WEIGHTED AVERAGE				
Alkalinity	ppm	200 - 560	301				
Bicarbonate	ppm	180 - 560	294				
Boron	ppb	520 - 1200	837				
Calcium	ppm	16 - 72	33				
Carbonate	ppm	<3 - 15	5.9				
Chromium 6 (sampled in 2010)	ppb	ND - 40	13				
Hardness	ppm	70 - 700	299				
Potassium	ppm	<2.0 - 3	<2.0				
Magnesium	ppm	7 - 130	53				
Sodium	ppm	49 - 120	84				
pH		8.0 - 8.5	8.3				

Lead and Copper Rule

Tap water samples were collected from 24 Davis homes in 2011 and analyzed for lead and copper. While low levels of copper were detected, none of the samples exceeded the Action Level. The highest amount detected for copper was 0.59 ppm and lead was not detected. The Action Level for lead is 15 ppb and 1.3 ppm for copper.

Arsenic in Drinking Water

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. Environmental Protection Agency 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.

Nitrate in Drinking Water

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain enzyme deficiencies. If you are caring for an infant, or if you are pregnant, ask advice from your health care provider.

Boron Notification

Three of the Davis wells have concentrations of Boron that exceed the notification level of 1000 parts per billion (ppb). These concentrations are 1200 ppb (Well 15); 1100 ppb (Well 22); and 1000 ppb (Well 27). Groundwater that contains Boron is derived from the leaching of rocks and soils that contain borate or borosilicate minerals. Boron is not a regulated contaminant but is considered a contaminant of concern. The high concentration of Boron in the Davis groundwater may have a detrimental impact on Boron sensitive plants. The babies of some pregnant women who drink water containing Boron in excess of the notification level, 1000 parts per billion (ppb), may have an increased risk of developmental effects, based on studies in laboratory animals.

Radon

Radon is a radioactive gas that occurs naturally in some groundwater. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Radon is released into homes and groundwater from soil. Inhalation of radon gas has been linked to lung cancer; however, the effects of radon ingested in drinking water are not yet clear. Samples taken from our wells during 2005 indicated a weighted average Radon concentration of 331 Pico Curies per Liter (pCi/L). If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information call the U.S. EPA's radon hotline at 1-800-SOS-RADON or call the State's radon program at 1-800-745-7236 or visit www.epa.gov/radon/hotlines.html.

Lead in Drinking Water

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 City of Davis 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, contact the City of Davis, the Safe Drinking Water Hotline (1-800-426-4791) or visit www.epa.gov/safewater/lead.

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 groundwater. 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. EPA and the California Department of Public Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State 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, 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 drinking water may be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Community Participation

The City Council and the Natural Resources Commission (NRC) receive public comments at their regularly scheduled meetings. Please check the City's web site at www.cityofdavis.org or call 530-757-5603 for Council dates or 530-757-5686 for NRC dates.

Source Water Assessment

A source water assessment for the City of Davis was completed in 2002. The goal of this project was to determine the water system's vulnerability to possible sources of contamination. Our groundwater is most vulnerable to historic and present-day land use activities. These activities include agricultural and light industrial use. Additionally, the water source is vulnerable to naturally occurring contaminants such as selenium and chromium. Overall, there is a slight to moderate threat that the City's water source could become contaminated by these land use patterns and activities. A summary of the assessment is available online at <http://swap.ice.ucdavis.edu/TSinfo/TSinfo.asp>, or contact Marie Graham at 530-757-5686 or e-mail mgraham@cityofdavis.org.



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 of infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Center 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 1-800-426-4791.

Water Treatment Process

Each well has a designated chlorine tank that injects a 12.5 percent solution of liquid sodium hypochlorite at the well site. The City targets a dosage of 0.3 parts per million in the distribution system. Precautions should be taken when using chlorinated water for medical uses, such as in dialysis machines, or when adding water to fish tanks or ponds. No fluoride is added to the water.



East Area Tank

One of the latest upgrades to our distribution system, the East Area Tank, went on-line in April 2011. The tank holds 4 million gallons of water and provides additional storage capacity for the City. The tank also helps regulate pressure to the east and south sides of Davis.

Well 32

The newest well added to our distribution system is located at 3608 Chiles Road. This well taps into deep aquifers located between 735 feet to 1560 feet below ground surface. The test hole was completed in 2006 and during that year, the Department of Public Health implemented a new regulation requiring treatment for any constituent that exceeded a Secondary Maximum Contaminant Level. Due to the high concentration of Manganese, the City installed a Manganese removal system at the site to comply with the regulation. This well will be the primary source of drinking water for South Davis.



City of Davis Public Works
1717 Fifth Street
Davis, CA 95616

Important Information About Your Water Quality

www.cityofdavis.org/pw/water

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

此份有关你的食水报告, 内有重要资料和信息, 请找他人为你翻译及解释清楚。



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City of Davis Water Quality Report For Year 2011



PWS ID# 5710001

Where Does Our Water Come From?

During 2011, the City pumped water from 20 municipal wells. These wells draw water from aquifers beneath the City at depths ranging from 210 to 1,760 feet below ground surface. The water is filtered naturally by sands and clays as it passes through geologic formations.

Surface Water Project Update

The planned surface water project is moving forward with critical path items to stay on schedule for delivery of water in 2016. The City Council decided in December 2011 to commission a comprehensive water rate study and form a Water Advisory Committee to oversee the rate study and evaluate the project. The Council also decided to have a ballot measure in November 2012 to let voters have a say about the proposed project. They will need to decide the language of the ballot measure in June. The Water Advisory Committee meets the 2nd and 4th Thursdays of the month at 6:30 p.m. in Community Chambers at City Hall. Meetings are open to the public and televised.

Water Conservation

Please visit our web site at www.cityofdavis.org or contact the Public Works office at 530-757-5686 to obtain more information about the City's efforts to conserve water.

For more information about this report, or for any questions relating to your drinking water, please call Davis Public Works at 530-757-5686 and ask for Marie Graham, Rick Thompson, or Diana Jensen. If you ever have a problem with your water supply after usual working hours, please call the non-emergency police number at 530-747-5400 (land line) or when using a cell phone call 530-758-3600 and you will be connected to a Public Works employee.

To Our Water Customers

This report is prepared in accordance with the U.S. Environmental Protection Agency (U.S. EPA) and the California Department of Public Health (CDPH) regulations under the Safe Drinking Water Act that requires water providers to report annual water quality information to their customers. This publication lists all constituents detected in your water supply over the last nine years and information about your water source, what it contains, how it compares to state and federal standards, and other related information.

Standards, and other related information.

