



City of Sunnyvale 2007 Water Quality Report

We are proud to report that the water provided by the City of Sunnyvale continues to meet established water quality standards. The City is required to test water quality over the course of each year, and the California State Department of Public Health requires us to distribute to all City customers an annual report on water quality. This report provides our customers with important information on the City's water supply sources and water quality testing.

In this report you will find important information, including a description of contaminants that may be present in source water. Inside, you will find the results of water quality testing performed in 2007 showing concentrations of various contaminants relative to health and aesthetic standards. **The bottom line: testing shows that the water provided by the City of Sunnyvale meets established Water quality standards.** The City is pleased to present this report to you and welcomes any comments you may have regarding the information contained in it. Please feel free to contact Val Conzet, Public Works Supervisor, at (408) 730-7510, TDD (408) 730-7501 or by e-mail at vconzet@ci.sunnyvale.ca.us

CITY WATER SOURCES

Approximately 87 percent of the water provided by the City to our customers during a normal year is treated surface water. The remaining 13 percent is ground water pumped from nine City-owned and operated wells, and recycled water for some landscape and industrial customers.

The surface water comes from two sources. The Sunnyvale Water Program manages the delivery of San Francisco Public Utilities Commission (SFPUC) water from six delivery points located along their transmission pipeline, which runs through the northern part of the City. Eighty-six percent of SFPUC's water originates in the Hetch-Hetchy Reservoir located in Yosemite National Park, and the other 14 percent comes from the Calaveras or San Antonio reservoirs in the Alameda Creek watershed. About 42 percent of Sunnyvale's total water supply comes from the SFPUC.

The Sunnyvale Water Program also receives water from the Santa Clara Valley Water District (SCVWD) through connections in the southern part of the City. SCVWD obtains water from several sources, including the Sacramento/San Joaquin Delta and Anderson and Calero reservoirs, and treats the water at their Rinconada Treatment Plant in Los Gatos. About 45 percent of Sunnyvale's total water supply comes from the SCVWD.

DISINFECTION – Chloramine/Chlorine/Ammonia

Sunnyvale residents should know that the water in the Sunnyvale system includes water treated with chloramine and well water that is tested but not treated. Chloramine, a combination of chlorine and ammonia, is more stable than chlorine and offers a number of health benefits. Chloramine lasts longer in water to provide more protection against pathogens such as bacteria and viruses, and produces lower levels of disinfection byproducts such as trihalomethanes (THMs). State and federal regulations effective January 2002 lowered the allowable level of exposure to disinfection byproducts. The water provided by SFPUC and SCVWD is disinfected with chloramines which can affect dialysis treatment. The City maintains contact with dialysis treatment centers in the City. Residents on home dialysis should contact their physicians to discuss the impact on their treatment. The Transpacific Network for Dialysis at (415) 331-1545 can provide more information about chloramines and dialysis. Fish and aquarium owners should check with their local pet stores to make sure they are using the correct equipment for chloramine removal of any concentration.

HEALTH INFORMATION

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 U.S. Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at (800) 426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy or 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 from their health care providers about drinking water.

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 at (800) 426-4791.

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.

FLUORIDATION

The SFPUC completed construction on the new, system-wide fluoridation facility in 2005. Beginning November 2005 all water from the SFPUC is fluoridated. However, the City's other wholesale water provider (SCVWD) has no plans to fluoridate its water, and the City does not fluoridate well water. As a result, some areas of Sunnyvale receive fluoridated water, other areas receive non-fluoridated water, and some areas receive a mixture of fluoridated and non-fluoridated water. An explanation and a map showing the different areas were sent to all customers. This information is also available on the City's website. If you would like more information please contact the Water Program at (408) 730-7510.

IMPORTANT CONTACTS

Informed consumers are our best allies in maintaining safe drinking water. If you are interested in water information and decisions being made relative to new regulations, information is available on the Internet.

Water Quality

7 a.m. - 4:30 p.m.

(408) 730-7510

Utility Billing

8 a.m. - 5 p.m.

Residential (408) 730-7400
Commercial (408) 730-7681

Backflow and Cross Connection Control Program

7 a.m. - 4:30 p.m.

(408) 730-7574

TDD

(408) 730-7501

City of Sunnyvale

www.sunnyvale.ca.gov

California Dept. of Public Health (CDPH)

www.cdph.ca.gov

U.S. Environmental Protection Agency (EPA)

(800) 426-4791

www.epa.gov/ogwdw/

Dept. of Water Resources (DWR)

www.dwr.water.ca.gov/

To learn more about mercury preparedness for yourself and your family, visit www.oes.insunnyvale.com

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

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

此份有关你的食水报告,内有重要资料和讯息他人为你翻译及解释清楚。

**Chi tiet này thật quan trọng.
Xin nhờ người dịch cho quý vị.**

**City of Sunnyvale
2007 Water Quality
Report**



**2007 Water Quality Test Results for
Water Provided by the City of Sunnyvale⁽¹⁾**

ALL RESULTS MET STATE AND FEDERAL WATER REGULATIONS

How to Read this Chart

The first column, labeled "Standards," lists the standards for various water quality parameters and contaminants. The second column, labeled "Water Test Results," shows the range of concentrations in water quality samples taken during 2007, as well as the average concentration. This data is shown for the three sources of Sunnyvale's water: ground water (wells) and imported surface water from the Santa Clara Valley Water District (SCVWD) and the San Francisco Public Utilities Commission (SFPUC). To evaluate test results, compare the standards with the actual measured concentrations listed under "Water Test Results." The final column describes where contaminants may originate. In most cases, the specific source of a contaminant is not known. Any contaminants below detection limits such as arsenic, perchlorate, MTBE, etc., are not listed on the chart.

STANDARDS	WATER TEST RESULTS						TYPICAL SOURCES IN DRINKING WATER
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Primary Standards - Mandatory Health Related Standards

Parameter	Unit	MCL ⁽²⁾	PHG ⁽³⁾ [MCLG] ⁽⁴⁾	Sunnyvale Ground (Well) Water ⁽⁵⁾		Imported Surface Waters				Typical Sources in Drinking Water	
				Range	Avg.	SCVWD ⁽⁶⁾		SFPUC ⁽⁷⁾			
						Range	Avg.	Range	Avg.		
CLARITY											
Turbidity ⁽⁸⁾	NTU	5 ⁽⁹⁾	NS	0.10 - 2.20	0.55	0.04 - 0.08	0.06	0.08 - 0.24	0.15	Soil runoff.	
Disinfection Byproducts, Residuals, Precursors											
Total Trihalomethanes (TTHM)	ppb	80	N/A	ND - ND	ND	28 - 48	38	11 - 44	32	By-product of drinking water chlorination.	
Total Haloacetic Acids (HAA5)	ppb	60	N/A	NA - NA	NA	10 - 18	13	3 - 29	18	By-product of drinking water chlorination.	
TOC (precursor control)	ppm	TT	NA	NA - NA	NA	1.32 - 2.12	1.73	0.7 - 2.5	1.9	Various natural and man-made sources	
INORGANIC CHEMICALS											
Barium	ppm	1	2	<.1 - 0.15	0.10	ND - ND	ND	NA - NA	NA	Erosion of natural deposits.	
Fluoride ⁽¹⁴⁾	ppm	2	1	0.1 - 0.2	0.1	ND - 0.1	0.1	<0.1 - 0.7	0.3	Erosion of natural deposits. Water additive that promotes strong teeth.	
Nitrate + Nitrite as N	ppm	10	10	2.3 - 7.4	4.5					Runoff and leaching from fertilizer use. Erosion of natural deposits.	
Nitrate as NO ₃ ⁽¹⁵⁾	ppm	45 (as nitrate) 10 (as nitrogen)	45 (as nitrate) 10 (as nitrogen)	9.8 - 28.2	18.1	ND - 3	3	NA - NA	NA	Runoff and leaching from fertilizer use, erosion of natural deposits. <i>Health Note: Infants below the age of six months who drink water containing nitrate in excess of the MCL may become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blueness of the skin.</i>	
MICROBIOLOGY											
Giardia Lambliia	cyst/L	TT	[0]	NA - NA	NA	ND - ND	ND	ND - 0.03	0.03	Naturally present in th environment	
RADIONUCLIDES											
Gross Alpha	pCi/L	15	[0]	<3 - <3	<3	NA - NA	NA	NA - NA	NA	Erosion of natural deposits.	
Gross Beta ⁽¹⁶⁾	pCi/L	50	[0]	<3 - <3	<3	NA - NA	NA	NA - NA	NA	Decay of natural and man-made deposits.	
Radium - 226 + 228	pCi/L	5	[0]	<1 - <1	<1	NA - NA	NA	NA - NA	NA	Erosion of natural deposits.	

Secondary Standards - Aesthetic Standards

Parameter	Unit	MCL ⁽²⁾	PHG ⁽³⁾ [MCLG] ⁽⁴⁾	Sunnyvale Ground (Well) Water ⁽⁵⁾		Imported Surface Waters				Typical Sources in Drinking Water	
				Range	Avg.	SCVWD ⁽⁶⁾		SFPUC ⁽⁷⁾			
						Range	Avg.	Range	Avg.		
PHYSICAL PARAMETERS											
Color	Units	15	N/A	<3 - 5	1.71	<2.5 - <2.5	<2.5	NA - NA	NA	Naturally-occurring organic materials.	
Odor - Threshold	T.O.N.	3	N/A	1.0 - 1.0	1.0	1 - 1	1	NA - NA	NA	Naturally-occurring organic materials.	
Chloride	ppm	500	N/A	31 - 72	47.7	65 - 88	75	<3 - 17	9	Runoff/leaching from natural deposits; seawater influence.	
Copper	ppm	1	0.17	<0.05 - <0.05	<0.05	ND - ND	ND	NA - NA	NA	Internal corrosion of household plumbing systems; erosion of natural	
Foaming Agents (MBAS)	ppb	500	N/A	<50 - <50	<50	<50 - <50	<50	NA - NA	NA	Municipal and industrial waste discharges.	
Sulfate	ppm	500	N/A	21 - 40	34	48.1 - 54.9	51.3	0.8 - 37	17.6	Runoff/leaching from natural deposits; industrial wastes.	
Total Dissolved Solids	ppm	1000	N/A	400 - 512	433	250 - 284	266	25 - 193	109	Runoff/leaching from natural deposits.	
Specific Conductance	uS/cm	1600	N/A	595 - 824	695	475 - 563	518	32 - 320	185	Substances that form ions when in water; seawater influence.	
ADDITIONAL CONSTITUENTS											
pH	Units	N/S	N/A	7.5 - 7.8	7.7	7.5 - 7.7	7.6	8.7 - 9.3	9.0		
Total Alkalinity (as CaCO ₃)	ppm	N/S	N/A	218 - 274	244	59 - 75	68	8 - 112	59		
Hardness (as CaCO ₃)	ppm	N/S	N/A	263 - 332	296	83 - 103	93	8 - 116	61		
Calcium as CaCO ₃	ppm	N/S	N/A	NA - NA	NA	41 - 52	45	NA - NA	NA		
Sodium	ppm	N/A	N/A	22 - 39	29	55 - 72	64	3 - 22	14		
Temperature	Deg. C	N/S	N/A	N/A - N/A	NA	14 - 23	19	NA - NA	NA		
Magnesium	ppm	N/A	N/A	20 - 33	26	11 - 14	12	<0.2 - 9.4	5.4		
Potassium	ppm	N/A	N/A	1.2 - 1.6	1.4	2.6 - 3.3	3.1	0.3 - 1.5	0.9		
Total Ammonia	ppm	N/S	N/A	NA - NA	NA	0.43 - 0.60	0.5	NA - NA	NA		
Boron (1000ppb notification level)	ppb	NS	N/A	0.14 - 0.20	0.20	115 - 162	134	NA - NA	NA		
Calcium	ppm	N/A	N/A	64 - 98	83	16 - 21	18	3 - 29	15.3		
Chlorate	ppb	N/S	N/A	NA - NA	NA	102 - 169	133	NA - NA	NA		
Silica	ppm	N/A	N/A	NA - NA	NA	12 - 14	12	4.2 - 9.3	6.1		
Radon	pCi/L	N/A	N/A	280 - 530	396	NA - NA	NA	NA - NA	NA		
Chromium 6 (Hexavalent)	ppb	N/A	N/A	0.25 - 2.75	1.60	ND - ND	ND	ND - ND	ND		

SUNNYVALE DISTRIBUTION SYSTEM

	Unit	MCL ⁽²⁾	PHG ⁽³⁾ [MCLG] ⁽⁴⁾	Range	90th Percentile	Typical Sources in Drinking Water
LEAD AND COPPER RULE STUDY-latest 2007						
Copper - City of Sunnyvale (52 homes)	ppb	AL ⁽¹⁷⁾ AL=1300 ⁽¹⁸⁾	170	ND - 1380	151	Corrosion of household plumbing systems.
Lead - City of Sunnyvale (52 homes)	ppb	AL=15 ⁽¹⁹⁾	2	ND - 32	2	Corrosion of household plumbing systems.
	Unit	MCL ⁽²⁾	PHG ⁽³⁾ [MCLG] ⁽⁴⁾	Range	Avg.	Typical Sources in Drinking Water
DISINFECTION BYPRODUCTS						
Total Trihalomethanes ⁽¹³⁾	ppb	80	N/A	0.9 - 63.1	44.9	By-product of drinking water chlorination.
Total Haloacetic Acids (HAA5) ⁽¹³⁾	ppb	60	N/A	ND - 22.0	21.6	By-product of drinking water chlorination.
Disinfectant residual -chlorine	ppm	MRDL = 4 (as Cl ₂)	MRDLG = 4 (as Cl ₂)	1.79 - 2.12	1.94	Disinfectant added for treatment.
MICROBIOLOGICAL						
Total Coliform Bacteria, highest % of positives detected in any month ⁽²⁰⁾	% Pos	≤ 5.0	[0]	0 - 0.52	0.043	Naturally present in the environment.

(1) Set forth in 40 CFR Part 141 and 142 National Primary Drinking Water Regulation and California Code of Regulations, Title 22, Section 116470.
(2) Maximum Contaminant Level established by U.S. EPA/CDPH
(3) Public Health Goal established by California Office of Environmental Health Hazard Assessment.
(4) Maximum Contaminant Level Goal established by the Environmental Protection Agency.
(5) Sunnyvale Municipal Wells (groundwater).
(6) Santa Clara Valley Water District (Rinconada Water Treatment Plant).
(7) San Francisco Water Department (Hetch-Hetchy).
(8) Turbidity is the water clarity indicator and standards are set per TT or Source Water Type.
(9) The turbidity standard for unfiltered water supplies is 5 NTU.
(10) Filtered water turbidity must be less than 0.3 NTU 95% of the time. The SFPUC and SCVWD met this standard 100 % of the time.
(11) This is a single, maximum measurement. The elevated turbidity was caused by the startup of the Hetch-Hetchy Aqueduct after shutdown for maintenance work. Turbid water was not served to customers.
(12) This is the minimum percentage of time that the filtered water turbidity was equal to or less than 0.3 NTU.
(13) 4-Quarter running average of TTHMs and HAA5 in Sunnyvale's water supply system.
(14) The SFPUC adds fluoride to the naturally occurring level to help prevent dental caries in consumers. The fluoride levels in the treated water are maintained within a range of 0.8-1.5 ppm, as required by CDPH regulations.
(15) Federal MCLG is 10 mg/L for Nitrate as Nitrogen.
(16) Effective 6/11/06 the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to total body or any internal organ. 50pCi/L is used as a screening level.
(17) Action Level (AL). The 90th percentile of lead or copper must be below the action level.
(18) In 2007, 1 out of 52 residences were over the action level.
(19) In 2007, 1 out of 52 residences were over the action level.
(20) Coliform by Absence/Presence Method.

Abbreviations and Units

NTU = Nephelometric Turbidity Unit
NS = No Standard
ND = None Detected
N/A = Not Available
ppm = parts per million (milligrams per liter)
µS/cm = MicroSiemens/centimeter
pCi/L = picoCuries/liter (a measure of radioactivity)
% pos = % positive
ppb = parts per billion (micrograms per liter)
MFL = Million fibers per liter
MRDL = Maximum Residual Disinfectant Level
MRDLG= Maximum Residual Disinfectant Level Goal
AL = Regulatory Action Level
TT = Treatment Technique
DLR= Deltacion Level Reporting
PDWS= Primary Drinking Water Standard
PHG= Public Health Goal
MCL = Maximum Contaminant Level
MCLG= Maximum Contaminant Level Goal
TOC= Total Organic Compounds

ADDITIONAL COMMENTS OR NOTATIONS.

In accordance with CDPH regulations, in 2007 the SCVWD monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, contact the District at (408) 265- 2600 or visit their web site at www.scvwd.dst.ca.us.
In accordance with CDPH regulations, in 2007 SFPUC monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, call the SFPUC Water Quality Bureau at (650) 972-5950 or visit their web page at www.ci.sf.ca.us/puc.
In accordance with CDPH regulations, in 2007 the City of Sunnyvale monitored water quality for its source water supplies, and in all cases has met the required limits. For some contaminants the State allows us to monitor less than once per year due to the fact that these contaminants do not change frequently.

IMPORTANT DEFINITIONS FOR UNDERSTANDING THIS REPORT:

Maximum Contaminant Level (MCL): The Highest level of contaminant that is allowed in drinking water. Primary MCLs are set as close to 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 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.

Maximum Residual Disinfectant Level (MRDL): The level of disinfectant added to for water treatment that may not be exceeded at the consumers tap.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

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.

Primary Drinking Water Standards (PDWS): MCLs and MRDL for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

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

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

Waiver: State permission to decrease the monitoring frequency for a particular contaminant



INFORMATION ABOUT THE DRINKING WATER SOURCE ASSESSMENT PROGRAM

The City has completed a Drinking Water Source Assessment Program (DWSAP) for the groundwater sources. The DWSAP was completed in January 2003, and submitted to the California Department of Public Health at that time. A copy of the DWSAP may be viewed by appointment at the City's Corporation Yard, 221 Commercial St., Sunnyvale. You may request a summary of the individual assessments by contacting the Water Utility Program at (408) 730-7510. The City's groundwater sources are considered most vulnerable to contamination by leaky underground tanks containing fuel or dry-cleaning chemicals, sewer collection systems, old septic systems, and machine shops. The City owns and operates nine (9) deep wells, and no contaminants were detected in the 2007 test results. A summary of the City's DWSAP can be found at <http://swap.ice.ucdavis.edu/tsinfo/tsintro.asp>.

CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

In order to ensure that tap water is safe to drink, USEPA and the California Department of Public Health (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

Microbial Contaminants: such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Cryptosporidium and Giardia are parasitic microbes found in most surface-water supplies that can pose a potential health threat. If any of these microbes is ingested, symptoms may include diarrhea, stomach cramps, upset stomach, and slight fever. People with severely weakened immune systems, such as those identified previously, are likely to have more severe and persistent symptoms than healthy individuals, including complications that can become life-threatening. We encourage immuno-compromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection.

The SFPUC and the SCVWD regularly test for Cryptosporidium and Giardia in both source and treated water supplies serving the East Bay, South Bay, and San Francisco Peninsula. Both Cryptosporidium and Giardia have occasionally been found at very low levels. Current test methods do not allow us to determine with certainty if the microbes are dead or if they are capable of infecting humans.

Inorganic Contaminants: such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Organic Chemical Contaminants: including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application and septic systems.

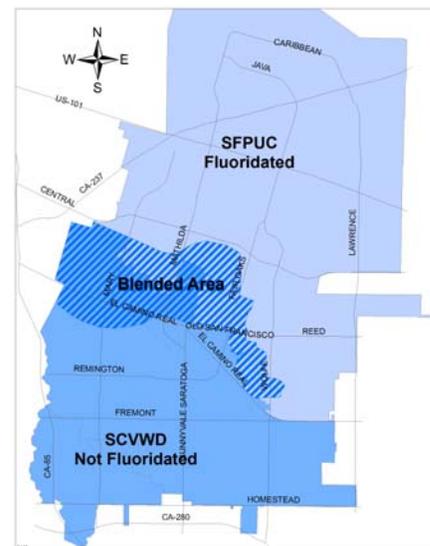
Radioactive Contaminants: that can be naturally-occurring or the result of oil and gas production and mining activities.

Pesticides and Herbicides: that may come from a variety of sources such as agricultural, urban storm water runoff and residential uses.

Nitrate: nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in 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 specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask for advice from your health care provider.

Radon: Radon is a radioactive gas that you can't see, taste or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, you can arrange for inexpensive and easy air quality testing. If the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher, you should fix the problem. For additional information, contact the State radon program or call EPA's Radon Hotline at (800) SOS-RADON.



PUBLIC PARTICIPATION

If you are interested in providing input on decisions that affect drinking water quality, any member of the public can speak on any issue specifically coming before the Council at a regularly scheduled City Council meeting, or on any topic you wish to bring to the Council's attention under the Citizens to be Heard portion of the agenda. You also can send a letter in advance of a meeting. City Council meetings are held Tuesday nights at 7:00 p.m. in the City Hall Council Chambers, 456 W. Olive Ave., Sunnyvale. A list of City Council meetings, agenda items, and study issues is available on the City's Web site at www.sunnyvale.ca.gov or by calling the City Clerk's office at (408) 730-7483.