

CITY OF SUNNYVALE – 2016 PUBLIC HEALTH GOALS REPORT

BACKGROUND

The California Health and Safety Code, section 116470(b) (see **Attachment 1**) requires public water systems serving more than 10,000 service connections to prepare a report by July 1, 2016 if water quality monitoring results over the past three years exceed any California Public Health Goals (PHGs) and/or federal Maximum Contaminant Level Goals (MCLGs). PHGs are non-enforceable goals established by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA). MCLGs are goals that are adopted by USEPA, and only come into play if there is no California PHG. PHGs may not be more lenient than MCLGs.

Only constituents that have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed in the Report. **Attachment 2** contains a list of the regulated constituents and their respective PHGs or MCLGs. Total coliform and Chromium VI (hexavalent chromium) are the constituents which minimally exceeded the MCLG or PHG, but were still well below the MCL. There is no PHG for total coliform.

If a constituent was detected by a water supplier between January 1, 2013 and December 31, 2015 at a level exceeding an applicable PHG or MCLG, the Report shall contain the following information as required by the law:

- Numerical public health risk associated with the enforced Maximum Contaminant Level (MCL) and the PHG or MCLG;
- Category or type of risk to health that could be associated with each constituent;
- Best treatment technology available, if any, that could be used to remove or reduce the constituent to a level at or below the PHG or MCLG;
- Estimate of the cost to install that treatment and if it is appropriate and feasible; and
- Description of the actions, if any, the City intends to take to reduce the level of the constituent.

PHG/MCLG vs. MCL

PHGs are set by OEHHA (and MCLGs by USEPA) based solely on public health risk considerations. MCLs are set by USEPA or the California State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) as the contaminants maximum level which public water systems must not exceed. Violations of MCLs can result in fines, abatement orders, or closure of facilities. When the USEPA, or the DDW, adopts an MCL, they take into account such factors as (1) analytical methodologies, (2) effectiveness of available treatment technologies, and (3) health benefits versus costs. PHGs (and MCLGs) are not enforceable and are not required to be met by any public water system.

Water Quality Data Review for this Report

Water quality data collected by the City of Sunnyvale during the calendar years of 2013, 2014 and 2015 for purposes of determining compliance with drinking water standards were reviewed in order to prepare this Report. This data was summarized in our 2013, 2014 and 2015 Annual Water Quality Reports, also known as Consumer Confidence Reports, which were distributed to

all of our customers by July of the following year and is typically included in the summer issue of the City's Quarterly Report (see **Attachment 3** for copies of the 2013, 2014, and 2015 City of Sunnyvale Consumer Confidence Reports).

Guidelines Followed for Preparation of this Report

The Association of California Water Agencies (ACWA) formed a workgroup which prepared guidelines for water utilities to use in preparing required PHG Reports. These guidelines, titled "Suggested Guidelines for Preparation of Required Reports on PUBLIC HEALTH GOALS (PHGs) to satisfy requirements of California Health and Safety Code Section 116470(b)" were used in the preparation of this Report.

Best Available Treatment Technology and Cost Estimates

Both USEPA and DDW adopt Best Available Technologies (BATs), which are the best known methods of reducing contaminant levels below the MCL. This report also considers other commercially available BATs that may have the ability to further reduce constituent levels beyond the MCL to the PHG/MCLG level or below. While a BAT may identify a process that can reduce the presence of a constituent, the cost of implementation can be a major factor in deciding whether or not to adopt the process. For a system that is in compliance with MCL levels, striving to keep constituents below PHG/MCLG levels must be evaluated with costs in mind.

Costs were estimated for the implementation of BATs for each constituent exceeding PHGs or MCLGs. The PHGs/MCLGs are set much lower than the MCL, and it is not always possible or feasible to determine what treatment technology is able to further reduce a constituent to a level at or below the PHG/MCLG. In some cases, such as when the MCLG is set at zero, there may not be commercially available technology to reach that level. The issue is further complicated because it is often not possible to verify by analytical means that the constituent has been totally eliminated, as some laboratory analyses can detect constituents down to a DDW approved level with certainty and are unable to definitively identify the constituent at lower levels. In some cases, installing treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality. This report presents the required cost estimates to implement the BATs to reduce the constituent to a level at or below the PHG/MCLG.

CONSTITUENTS DETECTED THAT EXCEED A PHG OR MCLG

In reviewing water quality monitoring data collected during 2013, 2014 and 2015, City of Sunnyvale staff have concluded that a PHG Report is required that addresses the following constituents:

- Coliform bacteria
- Chromium VI (Hexavalent Chromium)

The following section presents a discussion of the constituent that was detected in the drinking water distribution system or at water supply wells at levels above the PHG or MCLG.

Coliform Bacteria

In 1989 EPA developed the Total Coliform Rule. The MCL for total coliforms is five percent (5%) positive samples of all samples collected in each month. The MCLG is zero (there is no PHG for coliform bacteria).

The reason for the coliform standard is to minimize the possibility for drinking water to contain pathogens. Pathogens are microorganisms that can cause disease if ingested. Coliform bacteria is an indicator organism that is not generally considered harmful, but is used to identify the potential presence of pathogens in the water. It is not unusual for a system to have an occasional positive sample. A positive sample serves as a trigger to prompt further investigation into the presence of other organisms, requiring additional sampling to be done immediately after it is discovered.

The monitoring of a non-harmful constituent (coliform bacteria) to indicate the possible presence of harmful pathogens makes for an inexact, but generally conservative process. Therefore, it is not possible to state a specific numerical health risk associated with a given level of coliform bacteria. EPA normally sets MCLGs “at a level where no known or anticipated adverse effects on persons would occur.” When EPA published the final Total Coliform Rule they stated that it was not possible to determine such a level with coliform sampling. The absence of coliform bacteria is therefore the goal, and when that goal is not achieved, follow-up testing verifies whether an actual pathogen is present.

Best Available Technology Identified in the Total Coliform Rule

DDW identifies the best available technologies to meet the total coliform MCL in Title 22 of the California Code of Regulations Section 64447, which are as follows:

1. Protection of wells from coliform contamination by appropriate placement and construction;
2. Maintenance of a disinfectant residual throughout the distribution system;
3. Proper maintenance of the distribution system (e.g. including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, and continual maintenance of positive water pressure in all parts of the distribution system); and
4. Filtration and/or disinfection of surface water, in compliance with Section 64650, or disinfection of ground water

The City of Sunnyvale has implemented all of the above actions or processes, or obtains water from suppliers who implement these processes (such as filtration and chloramination). There is one method that may further reduce or eliminate the presence of total coliform, which is to increase the amount of disinfectant residual in the distribution system; however, the tradeoff includes the increased potential for the presence of cancer-causing disinfection byproducts. In the interest of protecting the public’s health, the City would prefer to continue to implement the current technologies and monitoring and maintenance program. As such, there is no estimated cost associated with additional treatment to reduce the incidence of coliform bacteria.

Sunnyvale Total Coliform Rule Monitoring Results

Each month the City collects at least 140 samples from sites located throughout the distribution system that are analyzed for the presence of coliform bacteria. If a positive coliform sample is found, follow-up sampling is done for more specific indicators of bacterial contamination.

Over the last three years, the monthly average of positive samples for coliform bacteria ranged from 0% to 2.8 %. All instances where a positive coliform sample was initially found, follow-up samples were negative for E. coli bacteria. The data indicated that these were isolated incidents, and the quality of the water in the distribution system was never compromised.

The City of Sunnyvale works closely with our regional water suppliers, the Santa Clara Valley Water District (SCVWD) and the San Francisco Public Utilities Commission (SFPUC). Both SCVWD and SFPUC provide water with a chloramine residual in accordance with the Total Coliform Rule.

Other measures and programs that the City implements to protect the microbiological quality of the drinking water served include:

- flushing of all distribution system dead-ends as needed;
- flushing of all hydrants as needed;
- implementation of a cross-connection control program;
- monitoring of a disinfectant residual throughout the distribution system;
- ongoing microbiological monitoring and surveillance program of all groundwater sources and the distribution system;
- implementation of a tank cleaning program every five years; and
- maintenance of positive pressures throughout the distribution system at all times.

As stated above, monitoring for coliform bacteria to indicate the possible presence of harmful pathogens is a conservative, yet inexact process. As such, there is no specific numerical correlation to health risk. However, the City has implemented a vigilant monitoring and maintenance program that is intended to meet the requirements of the Total Coliform Rule and protect public health.

No additional actions are recommended at this time for coliform bacteria.

Chromium VI (Hexavalent Chromium)

On July 1, 2014, the new MCL of 10 ppb became effective for chromium VI. Previously chromium VI was regulated under the 50 ppb primary drinking water standard for total chromium established in California in 1977. The California PHG for chromium VI has been set at 0.02 ppb. The established detection limit for reporting results is 1 ppb meaning that lab results returned under 1 ppb can be unreliable due to the fact that equipment is not sensitive enough to detect levels under the 1 ppb level.

Chromium VI can be naturally occurring and found in natural deposits throughout California. However, chromium VI was used in industrial and manufacturing and contaminated waste can migrate into groundwater supplies. Chromium VI has been categorized in the health risk category as being carcinogenic through inhalation and ingestion. The cancer risk at the California MCL is 5×10^{-4} , or five per 10,000, and the risk at the PHG is 1×10^{-6} or one per million¹

¹ Office of Environmental Health Hazard Assessment, Water Toxicology Section, Health Risk Information for Public Health Goal Exceedance Reports, February 2016

Best Available Technology Identified for Chromium VI

The approved technologies for removing chromium VI from drinking water include:

- Ion exchange
- Coagulation/Filtration
- Reverse osmosis

Two applications of treatment technologies have been tested in recent history and have reduced chromium-VI levels to 1 ppb. The estimated cost to install and operate such treatment systems are within the range of \$1,580 to \$9,950 per thousand gallons treated. Sunnyvale well capacities range from 500 to 1,900 gpm. The cost to implement treatment at each of the well sites would be approximately within the range of \$790,000 to \$4.98M for smaller capacity wells to as much as \$3.0M to \$18.9M for largest capacity wells. In addition, the treatment systems would have associated operations and maintenance costs that are unknown at this time. The result would be an assumed increase cost for each customer of up to \$700 over the span of a typical loan payback time of 30 years and not including the continuous cost of O&M².

Sunnyvale Chromium VI Monitoring Results

The City has one year of results collected for chromium VI with results averaging 1.3 ppb from the six groundwater wells operated within and by the City. The City is well below the MCL of 10 ppb and just above the 1 ppb level that treatment systems can reliably detect. As such, the City will continue to monitor results and has no plans currently to install treatment systems at affected wells due to the increased cost and marginal/unknown benefit.

SUMMARY AND CONCLUSION

The drinking water for the City of Sunnyvale meets all standards established by DDW and USEPA to protect public health. No additional treatment is recommended in an effort to decrease the incidence of total coliform and hexavalent chromium in system water testing. The level of total coliform and hexavalent chromium detected is well below the MCL, and elimination may be impossible. Therefore, no additional actions are proposed at this time for reducing coliform bacteria and hexavalent chromium. The City and its water suppliers will continue to implement the BATs for total coliform as well as the monitoring and maintenance program. Hexavalent chromium will continue to be monitored as required by DDW.

Attachments:

1. Excerpt from California Health & Safety Code: Section 116470 (b)
2. Table of Regulated Constituents with MCLs, PHGs or MCLGs
3. Consumer Confidence Reports for 2013, 2014 and 2015.

² Costs for BATs come from the 2016 PHG Report Guidance to Water Systems, ACWA, February 2016

ATTACHMENT NO. 1

CALIFORNIA HEALTH AND SAFETY CODE

Section §116470. Public Health Goal Report

- (b) On or before July 1, 1998, and every three years thereafter, public water systems serving more than 10,000 service connections that detect one or more contaminants in drinking water that exceed the applicable public health goal, shall prepare a brief written report in plain language that does all of the following:
- (1) Identifies each contaminant detected in drinking water that exceeds the applicable public health goal.
 - (2) Discloses the numerical public health risk, determined by the office, associated with the maximum contaminant level for each contaminant identified in paragraph (1) and the numerical public health risk determined by the office associated with the public health goal for that contaminant.
 - (3) Identifies the category of risk to public health, including, but not limited to, carcinogenic, mutagenic, teratogenic, and acute toxicity, associated with exposure to the contaminant in drinking water, and includes a brief plainly worded description of these terms.
 - (4) Describes the best available technology, if any is then available on a commercial basis, to remove the contaminant or reduce the concentration of the contaminant. The public water system may, solely at its own discretion, briefly describe actions that have been taken on its own, or by other entities, to prevent the introduction of the contaminant into drinking water supplies.
 - (5) Estimates the aggregate cost and the cost per customer of utilizing the technology described in paragraph (4), if any, to reduce the concentration of that contaminant in drinking water to a level at or below the public health goal.
 - (6) Briefly describes what action, if any, the local water purveyor intends to take to reduce the concentration of the contaminant in public drinking water supplies and the basis for that decision.

ATTACHMENT NO. 2

MCLs, DLRs and PHGs for Regulated Drinking Water Contaminants

Last Update: December 29, 2015

Prepared and provided by the Association of California Water Agencies (ACWA).

ATTACHMENT NO. 2

2016 PHG Triennial Report: Calendar Years 2013-2014-2015

MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants
(Units are in milligrams per liter (mg/L), unless otherwise noted.)

Last Update: December 29, 2015

(Reference last update 9/23/2015: http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/MCLsandPHGs.shtml)

This table includes:

- DDW's maximum contaminant levels (MCLs)
- DDW's detection limits for purposes of reporting (DLRs)
- [Public health goals \(PHGs\) from the Office of Environmental Health Hazard Assessment \(OEHHA\)](#)
- PHGs for NDMA and 1,2,3-Trichloropropane (both are unregulated) are at the bottom of this table
- The federal MCLG for chemicals without a PHG, microbial contaminants, and the DLR for 1,2,3-TCP

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
<i>Chemicals with MCLs in 22 CCR §64431—Inorganic Chemicals</i>				
Aluminum	1	0.05	0.6	2001
Antimony	0.006	0.006	0.02	1997
Antimony	--	--	0.0007	2009 draft
Arsenic	0.010	0.002	0.000004	2004
Asbestos (MFL = million fibers per liter; for fibers >10 microns long)	7 MFL	0.2 MFL	7 MFL	2003
Barium	1	0.1	2	2003
Beryllium	0.004	0.001	0.001	2003
Cadmium	0.005	0.001	0.00004	2006
Chromium, Total - OEHHA withdrew the 1999 0.0025 mg/L PHG in Nov 2001	0.05	0.01	(0.100)	
Chromium, Hexavalent (Chromium-6)	0.01	0.001	0.00002	2011
Cyanide	0.15	0.1	0.15	1997
Fluoride	2	0.1	1	1997
Mercury (inorganic)	0.002	0.001	0.0012	1999 (rev2005)*
Nickel	0.1	0.01	0.012	2001
Nitrate (as N)	10 as N	0.4	45 as NO ₃ (=10 as N)	1997
Nitrite (as N)	1 as N	0.4	1 as N	1997
Nitrate + Nitrite (as N)	10 as N	0.4	10 as N	1997
Perchlorate	0.006	0.004	0.001	2015
Selenium	0.05	0.005	0.03	2010
Thallium	0.002	0.001	0.0001	1999 (rev2004)
<i>Copper and Lead, 22 CCR §64672.3</i>				
<i>Values referred to as MCLs for lead and copper are not actually MCLs; instead, they are called "Action Levels" under the lead and copper rule</i>				
Copper	1.3	0.05	0.3	2008
Lead	0.015	0.005	0.0002	2009

ATTACHMENT NO. 2

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
Radionuclides with MCLs in 22 CCR §64441 and §64443—Radioactivity				
[units are picocuries per liter (pCi/L), unless otherwise stated; n/a = not applicable]				
Gross alpha particle activity - OEHHA concluded in 2003 that a PHG was not practical	15	3	(zero)	n/a
Gross beta particle activity - OEHHA concluded in 2003 that a PHG was not practical	4 mrem/yr	4	(zero)	n/a
Radium-226	--	1	0.05	2006
Radium-228	--	1	0.019	2006
Radium-226 + Radium-228	5	--	(zero)	--
Strontium-90	8	2	0.35	2006
Tritium	20,000	1,000	400	2006
Uranium	20	1	0.43	2001
Chemicals with MCLs in 22 CCR §64444—Organic Chemicals				
(a) Volatile Organic Chemicals (VOCs)				
Benzene	0.001	0.0005	0.00015	2001
Carbon tetrachloride	0.0005	0.0005	0.0001	2000
1,2-Dichlorobenzene	0.6	0.0005	0.6	1997 (rev2009)
1,4-Dichlorobenzene (p-DCB)	0.005	0.0005	0.006	1997
1,1-Dichloroethane (1,1-DCA)	0.005	0.0005	0.003	2003
1,2-Dichloroethane (1,2-DCA)	0.0005	0.0005	0.0004	1999 (rev2005)
1,1-Dichloroethylene (1,1-DCE)	0.006	0.0005	0.01	1999
cis-1,2-Dichloroethylene	0.006	0.0005	0.1	2006
trans-1,2-Dichloroethylene	0.01	0.0005	0.06	2006
Dichloromethane (Methylene chloride)	0.005	0.0005	0.004	2000
1,2-Dichloropropane	0.005	0.0005	0.0005	1999
1,3-Dichloropropane	0.0005	0.0005	0.0002	1999 (rev2006)
Ethylbenzene	0.3	0.0005	0.3	1997
Methyl tertiary butyl ether (MTBE)	0.013	0.003	0.013	1999
Monochlorobenzene	0.07	0.0005	0.07	2014
Styrene	0.1	0.0005	0.0005	2010
1,1,2,2-Tetrachloroethane	0.001	0.0005	0.0001	2003
Tetrachloroethylene (PCE)	0.005	0.0005	0.00006	2001
Toluene	0.15	0.0005	0.15	1999
1,2,4-Trichlorobenzene	0.005	0.0005	0.005	1999
1,1,1-Trichloroethane (1,1,1-TCA)	0.2	0.0005	1	2006
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	0.0005	0.0003	2006
Trichloroethylene (TCE)	0.005	0.0005	0.0017	2009
Trichlorofluoromethane (Freon 11)	0.15	0.005	1.3	2014
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	1.2	0.01	4	1997 (rev2011)
Vinyl chloride	0.0005	0.0005	0.00005	2000
Xylenes	1.75	0.0005	1.8	1997

ATTACHMENT NO. 2

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
(b) Non-Volatile Synthetic Organic Chemicals (SOCs)				
Alachlor	0.002	0.001	0.004	1997
Atrazine	0.001	0.0005	0.00015	1999
Bentazon	0.018	0.002	0.2	1999 (rev2009)
Benzo(a)pyrene	0.0002	0.0001	0.000007	2010
Carbofuran	0.018	0.005	0.0017	2000
Carbofuran	--	--	0.0007	2015 draft
Chlordane	0.0001	0.0001	0.00003	1997 (rev2006)
Dalapon	0.2	0.01	0.79	1997 (rev2009)
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0.00001	0.0000017	1999
2,4-Dichlorophenoxyacetic acid (2,4-D)	0.07	0.01	0.02	2009
Di(2-ethylhexyl)adipate	0.4	0.005	0.2	2003
Di(2-ethylhexyl)phthalate (DEHP)	0.004	0.003	0.012	1997
Dinoseb	0.007	0.002	0.014	1997 (rev2010)
Diquat	0.02	0.004	0.015	2000
Diquat	--	--	0.006	2015 draft
Endrin	0.002	0.0001	0.0018	1999 (rev2008)
Endrin	--	--	0.0003	2015 draft
Endothal	0.1	0.045	0.094	2014
Ethylene dibromide (EDB)	0.00005	0.00002	0.00001	2003
Glyphosate	0.7	0.025	0.9	2007
Heptachlor	0.00001	0.00001	0.000008	1999
Heptachlor epoxide	0.00001	0.00001	0.000006	1999
Hexachlorobenzene	0.001	0.0005	0.00003	2003
Hexachlorocyclopentadiene	0.05	0.001	0.002	2014
Lindane	0.0002	0.0002	0.000032	1999 (rev2005)
Methoxychlor	0.03	0.01	0.00009	2010
Molinate	0.02	0.002	0.001	2008
Oxamyl	0.05	0.02	0.026	2009
Pentachlorophenol	0.001	0.0002	0.0003	2009
Picloram	0.5	0.001	0.5	1997
Picloram	--	--	0.166	2015 draft
Polychlorinated biphenyls (PCBs)	0.0005	0.0005	0.00009	2007
Simazine	0.004	0.001	0.004	2001
2,4,5-TP (Silvex)	0.05	0.001	0.003	2014
2,3,7,8-TCDD (dioxin)	3×10^{-8}	5×10^{-9}	5×10^{-11}	2010
Thiobencarb	0.07	0.001	0.07	2000
Thiobencarb	--	--	0.042	2015 draft
Toxaphene	0.003	0.001	0.00003	2003

ATTACHMENT NO. 2

Constituent	MCL	DLR	PHG or (MCLG)	Date of PHG
Chemicals with MCLs in 22 CCR §64533—Disinfection Byproducts				
Total Trihalomethanes	0.080	--		
Total Trihalomethanes	--	--	0.0008	2010 draft
Bromodichloromethane	--	0.0010	(zero)	--
Bromoform	--	0.0010	(zero)	--
Chloroform	--	0.0010	(0.07)	--
Dibromochloromethane	--	0.0010	(0.06)	--
Haloacetic Acids (five) (HAA5)	0.060	--	--	--
Monochloroacetic Acid	--	0.0020	(0.07)	--
Dichloroacetic Acid	--	0.0010	(zero)	--
Trichloroacetic Acid	--	0.0010	(0.02)	--
Monobromoacetic Acid	--	0.0010	--	--
Dibromoacetic Acid	--	0.0010	--	--
Bromate	0.010	0.0050 or 0.0010 ^a	0.0001	2009
Chlorite	1.0	0.020	0.05	2009
Microbiological Contaminants (TT = Treatment Technique)				
Coliform % positive samples	%	5	(zero)	
<i>Cryptosporidium</i> **		TT	(zero)	
<i>Giardia lamblia</i> **		TT	(zero)	
<i>Legionella</i> **		TT	(zero)	
Viruses**		TT	(zero)	
Chemicals with PHGs established in response to DDW requests. These are not currently regulated drinking water contaminants.				
N-Nitrosodimethylamine (NDMA)	--	--	0.000003	2006
1,2,3-Trichloropropane	--	0.000005	0.0000007	2009

Notes:

^a DDW will maintain a 0.0050 mg/L DLR for bromate to accommodate laboratories that are using EPA Method 300.1. However, laboratories using EPA Methods 317.0 Revision 2.0, 321.8, or 326.0 must meet a 0.0010 mg/L MRL for bromate and should report results with a DLR of 0.0010 mg/L per Federal requirements.

*OEHHA's review of this chemical during the year indicated (rev20XX) resulted in no change in the PHG

** Surface water treatment = TT

ATTACHMENT NO. 3

City of Sunnyvale Consumer Confidence Reports:

- 2013 Water Quality Report
- 2014 Water Quality Report
- 2015 Water Quality Report

IMPORTANT CONTACT INFORMATION

CITY CONTACTS

City of Sunnyvale

456 West Olive Ave.
Sunnyvale, CA 94086
Tel: (408) 730-7415
TDD: (408) 730-7501
Fax: (408) 730-7286
sunnyvale.ca.gov

Hours of Operation: 8 a.m. to 5 p.m., M–F

**Environmental Services
Department (Leaks, Breaks,
Water Quality Questions)**
(408) 730-7400

Utility Division (Billing)
(408) 730-7400, Residential
(408) 730-7681, Commercial

**Backflow and Cross-
Connection Control Program**
(408) 730-7574

**SCVWD Water Conservation
Hotline**
(408) 630-2554

SCVWD Pollution Hotline
(888) 510-5151 (24 Hours)

WEB RESOURCES

Department of Public Health
cdph.ca.gov

US EPA
water.epa.gov/drink

**Department of
Water Resources**
www.dwr.water.ca.gov

Emergency Preparedness
ready.gov

**Bay Area Water Supply and
Conservation Agency**
bawsca.org

**American Water Works
Association**
awwa.org or DrinkTap.org

SCVWD
valleywater.org

SFPUC
sfwater.org

TO GET INVOLVED

To provide input on decisions that affect drinking water quality, you are welcome to speak on any issue specifically coming before the City Council at a regularly scheduled council meeting. You can also speak on any topic you wish to bring to the Council's attention during the "Public Comments" portion of the meeting agenda. Alternatively, you can send a letter in advance of a meeting.

City Council Meetings
City Hall Council Chambers
456 West Olive Ave.
Sunnyvale, CA 94086
Tuesdays, 7 p.m.

A list of City Council meetings, agenda items and study issues can be obtained by visiting sunnyvale.ca.gov or by calling the City Clerk's office at (408) 730-7483.



HEALTH & EDUCATION 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 USEPA Safe Drinking Water Hotline.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 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 USEPA Safe Drinking Water Hotline.

USEPA Safe Drinking Water Hotline ►
(800) 426-4791



The City of Sunnyvale is replacing and upgrading aging water distribution infrastructure to ensure continued reliable water supply. The improvements will enhance water quality and improve operational efficiency. In the past year, the City has replaced over eight miles of water pipelines and upgraded one of our water pumping facilities. The City has also updated the water communications system to better manage and operate the water distribution system. If you have questions about an upcoming project along your street, contact us at (408) 730-7400.



Last year was the driest year on record for many parts of California. Last January, Governor Brown declared a drought state-of-emergency and called on all Californians to reduce their water usage by 20%. While Sunnyvale's water use has been trending downward, we must continue to use water wisely. Sunnyvale is working to ensure a reliable water supply, and you can continue to do your part by conserving water. To learn more visit save20gallons.org and valleywater.org/drought2014.



CITY OF SUNNYVALE 2013 WATER QUALITY REPORT

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

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.

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

此份有關你的食水報告，內有重要資料和訊息，請找他人為你翻譯及解釋清楚。

この情報は重要です。翻訳を依頼してください。

이 소책자에는 식수수질 보고서의 내용을 요약한 당신의 수도물에 관한 중요한 정보가 적혀져있습니다. 이 정보를 이해하실수 있는 분에게 번역을 부탁하십시오.

यह सूचना महत्वपूर्ण है ।
कृपा करके किसी से इसका अनुवाद करायें ।

Last year your tap water met all state and federal drinking water health standards

The City of Sunnyvale aims to provide superior service while delivering a reliable, high-quality drinking water supply to our customers. Last year, your tap water met all state and federal drinking water health standards. The City vigilantly safeguards its water supplies, and once again, we are proud to report that our system has met or exceeded water quality standards.

WHAT'S INSIDE ►

Important information about your water

Tips for saving water

Ways to contact the City

Protecting your water supply

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (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 provide the same protection for public health.

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. 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 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 application and septic systems.
- **Radioactive Contaminants** that can be naturally-occurring or be the result of oil and gas production and mining activities.

Protection begins in the watersheds. Protecting the water supply is important to ensure that water is safe from contamination and aesthetically pleasing for use. Contamination requires treatment, which increases the cost to deliver water to your tap. Here are ways that you can help protect our watershed:

- Eliminate excess use of lawn and garden fertilizers and pesticides
- Pick up after your pets
- Take used motor oil and other recyclables to the SMaRT Station ®
- Dispose of pharmaceuticals at any Sunnyvale fire station. Medications should not to be flushed down drains or put in the garbage.
- Dispose of cleaners, chemicals and paints at a Household Hazardous Waste Drop-off Event
- Volunteer in your community. The Creek Connections Action Group works to protect the County's waterways. Visit www.cleanacreek.org.
- Participate in public meetings and forums. It allows decision-makers to hear your perspective and you to be involved in protecting your water supply.

More information about disposal and recycling ►
Call (408) 730-7262

SMaRT Station ®
301 Carl Road, Sunnyvale, CA 94089
Open daily, 8 a.m. to 5 p.m., Tel: (408) 752-8530

Household Hazardous Waste Drop-off
164 Carl Road, Sunnyvale, CA 94089
Every 3rd Saturday, 8 a.m. to 1 p.m.



Where your water comes from

The City of Sunnyvale has three different sources of drinking water supply: local groundwater, treated surface water from the Santa Clara Valley Water District (SCVWD) and treated surface water from the San Francisco Public Utilities Commission (SFPUC). There are also pockets of Sunnyvale customers who receive water from the California Water Service Company (Cal Water); questions regarding the source and delivery of water provided by Cal Water can be directed to its local office at (650) 917-0152.

Local Groundwater

The City owns, operates and maintains eight deep wells. The wells are used to help supplement the imported water supplies during peak demands in the summer months and emergency situations. The City is always working to increase flexibility in local groundwater supplies, enhance water quality, reduce operating costs, and increase reliability. Recent groundwater improvements include water well connections, electrical upgrades and installation of an emergency generator. Groundwater pumped from these wells is taxed by SCVWD.

The City completed a Drinking Water Source Assessment Program (DWSAP) in January 2003 for these groundwater sources. The City's groundwater sources are considered most vulnerable to

contamination by leaky underground fuel tanks, dry cleaning chemicals, sewer collection systems, old septic systems and machine shops.

SFPUC Supply

The City purchases a blend of Hetch Hetchy water and treated water from SFPUC to serve the northern part of the city. Filtered water turbidity from SFPUC met the standard of 0.3 NTU or less, 95% of the time.

The Hetch Hetchy Watershed provides most of the SFPUC water supply, supplemented by the Alameda watershed. The major water source originates from spring snowmelt flowing down the Tuolumne River and is stored in the Hetch Hetchy Reservoir. Since this water source meets all federal and state standards for watershed protection, disinfection treatment practices, bacteriological quality monitoring and

operations, the State has granted this water source a filtration exemption.

The Alameda Watershed spans more than 35,000 acres in Alameda and Santa Clara Counties. Surface water from rainfall and runoff is collected in the Calaveras and San Antonio Reservoirs. Prior to distribution, the water from these reservoirs is treated. Fluoridation, chloramination and corrosion control treatment are provided for the combined Hetch Hetchy and treated water. Fluoride is added to the naturally occurring level to help protect against tooth decay in consumers. The average fluoride levels in the treated water were maintained within a range of 0.7-1.4 mg/L as required by CDPH.

The SFPUC actively protects the water resources entrusted to its care. Its annual update of the Hetch Hetchy Watershed Sanitary Survey evaluates the sanitary conditions, water quality, potential contamination sources and the results of watershed management activities with partner agencies (such as the National Park

Service and US Forest Service). The SFPUC also conducts sanitary surveys every five years to detect and track sanitary concerns for the Bay Area watersheds and the approved standby water sources in Early Intake Watershed, which includes Cherry Lake and Lake Eleanor. The latest 5-year surveys were completed in 2011 for the period of 2006-2010. These surveys identified wildlife, stock and human activities as potential contamination sources. They are available for review at the CDPH San Francisco District office.

More information on SFPUC ►
[Visit \[sfwater.org\]\(http://sfwater.org\)](http://Visit.sfwater.org), or call CDPH (510) 620-3474

SCVWD Supply

The City purchases treated surface water from SCVWD and delivers it to the southern portion of the city. SCVWD imports more than half of its supply from the South Bay Aqueduct, Lake Del Valle and San Luis Reservoir, which all draw water from the Sacramento-San



Joaquin Delta Watershed. SCVWD local surface water sources include Anderson and Calero Reservoirs. SCVWD source waters are vulnerable to potential contamination from a variety of land use practices such as agricultural and urban runoff, recreational activities, livestock grazing and residential and industrial development. Imported sources are vulnerable to wastewater treatment plant discharges, seawater intrusion and wildfires in watershed areas.

Local sources are also vulnerable to contamination from commercial stables and historic mining practices. No contaminant associated with any of these activities has been detected in SCVWD treated water. Water treatment plants provide multiple barriers for physical removal and disinfection of contaminants.

More information on SCVWD ►
[Visit \[valleywater.org\]\(http://valleywater.org\)](http://Visit.valleywater.org)

WATER CONSERVATION TIPS



Water Conservation Hotline ►
SCVWD (408) 630-2554
valleywater.org

The City works cooperatively with our water wholesalers to provide residents with advice, assistance and access to programs. The following water-saving tips are simple ways to conserve water both indoors and out, and are provided jointly by the City and SCVWD.

Steps to Save Water Indoors

- Turn off the faucet while you brush your teeth.
- Take shorter showers. You will save 2.5 gallons of water each minute.
- Install water-efficient faucet aerators and showerheads in your kitchen and bathrooms.
- Check toilets and faucets for leaks. Running toilets can waste two gallons a minute while leaky faucets can waste thousands of gallons.
- Do not use the toilet as a wastebasket.
- Only wash full loads of laundry and dishes.

- Rinse fruits and vegetables in a pan instead of using running water.
- Keep a pitcher of drinking water in the refrigerator. Running tap water to cool it off for drinking is wasteful.
- Replace your old top-loading clothes washer with a high-efficiency model. For information about rebates call the Water Conservation Hotline.
- If your toilet uses more than 3.5 gallons per flush, replace it with a high-efficiency toilet. New models use 70 percent less water. For information about rebates, call the Water Conservation Hotline.

Steps to Save Water Outdoors

- Plant native or drought-tolerant plants that require less watering. Native plants promote healthier local ecosystems.
- Use a broom to sweep off pavement. Using a hose to wash sidewalks, driveways and patios wastes money and water.
- Apply organic mulch around plants to reduce moisture loss, keep weed-growth down and promote healthier soil.
- Deeply soak your lawn to ensure moisture reaches the roots. Light sprinkle watering evaporates quickly and encourages shallow root systems that need more frequent watering.

- Check for leaks in pipes, sprinkler heads and valves.
- Water during cool parts of the day. Early morning is the best time because it helps prevent growth of fungus.
- Water your lawn only when it needs it. If the grass springs back up after stepping on it, it does not need watering.
- Avoid watering on windy days.
- Use drip irrigation in larger gardens with weather-based irrigation control. For information about rebates call the Water Conservation Hotline.

2013

WATER QUALITY TEST RESULTS



The City of Sunnyvale has instituted a comprehensive water quality monitoring program that encompasses City-owned wells and all water purchased from SFPUC and SCVWD. This program ensures that all of our customers receive water that complies with all regulatory criteria and that no maximum contaminant levels (MCLs) or maximum contaminant level goals (MCLGs) for regulated chemicals, bacteria or pollutants are exceeded.

In order to ensure water quality standards are met, drinking water samples are collected daily throughout Sunnyvale and analyzed for a variety of regulated and unregulated contaminants. Samples are tested by the City's certified laboratory and an independent certified laboratory using the latest testing procedures and equipment. We collect more samples than required by the CDPH to provide you with the highest quality of water at all times. In addition, the City's wholesalers, SCVWD and SFPUC, conduct their own testing before delivering water to the City. Such measures help us to continue meeting established water quality standards.

The table to the right shows the results of the distribution system and source water analyses conducted by the City, SCVWD and SFPUC. Water quality data are grouped by water source. Last year we conducted more than 20,000 tests for more than 80 parameters. We detected only 15 of these parameters, and none were found at levels higher than CDPH allows.

Only the parameters detected are shown. Other constituents were analyzed but are not listed because they were not detected. Additionally, unregulated parameters are shown to provide you with supplemental information.

Some data—although representative—were collected prior to 2013, as the CDPH requires monitoring for some constituents less than once per year since the concentrations of these constituents do not vary frequently or significantly.



More information ►
For more information about this report or the City's water quality monitoring program, please contact:

John Ramirez
City of Sunnyvale
Water Operations Manager
Tel: (408) 730-7510
TDD: (408) 730-7501
jramirez@sunnyvale.ca.gov

PRIMARY DRINKING WATER STANDARDS (PUBLIC HEALTH RELATED STANDARDS)														
PARAMETER	Unit	MCL, (AL), or [MRDL]	PHG, (MCLG), or [MRDLG]	Groundwater Well		SCVWD		SFPUC		Typical Sources*				
				Average or [Max]	Range	Average or [Max]	Range	Average or [Max]	Range					
SOURCE WATER SAMPLING														
INORGANIC CHEMICALS														
Aluminum	ppm	1	0.6	ND	ND	ND	ND	ND	ND–0.052	3, 4				
Barium	ppm	1	2	0.11	0.10–0.13	ND	ND	ND	ND	3, 21				
Fluoride	ppm	2	1	0.20	0.14–0.24	ND	ND	0.4	ND–0.8	3, 5, 6				
Selenium	ppb	50	30	0.4	ND–2.6	ND	ND	ND	ND	3, 22, 23, 24				
Turbidity	NTU	TT	NA	0.23	ND–1.2	0.06	0.06	[3.6] _a	0.2–0.3 _b	2				
Nitrate	ppm	45	45	15	10–26	ND	ND–4	ND	ND	3, 7, 8				
RADIOLOGICAL														
Gross Alpha Particle Activity	pCi/L	15	(0)	ND	ND	ND	ND	ND	ND–3.9	3				
DISINFECTION BYPRODUCT PRECURSORS														
TOC (precursor control)	ppm	TT	NA			1.94	1.37–3.03	2.2	1.0–3.4	10				
MICROBIOLOGICAL														
Giardia Lambliia	cyst/L	TT	(0)			ND	ND	ND	ND–0.04	1				
DISTRIBUTION SYSTEM SAMPLING														
LEAD AND COPPER (SUNNYVALE 2013 AT-THE-TAP SAMPLING)				90th Percentile		# of Samples Above AL				3, 17, 19 3, 17, 18				
Lead	ppb	(15)	0.2	1		0 out of 53								
Copper	ppm	(1.3)	0.3	0.079		0 out of 53								
DISINFECTION RESIDUALS AND BYPRODUCTS				Highest Location RAA		Range				20 9 9				
Disinfectant Residual as Chlorine	ppm	[4]	[4]	1.95		0.01–3.10								
Total Trihalomethanes	ppb	80	NA	48.6		30.8–61.8								
Haloacetic Acids	ppb	60	NA	36.8		2.2–45.0								
MICROBIOLOGICAL				Average		Range				1				
Total Coliform Bacteria	% pos / month	5.0%	(0)	0.7%		0.0–2.8%								

SECONDARY DRINKING WATER STANDARDS (AESTHETIC STANDARDS)									
PARAMETER	Unit	MCL	Average	Range	Average	Range	Average	Range	Sources*
Aluminum	ppb	200	ND	ND	ND	ND	ND	ND–52	3, 4
Chloride	ppm	500	44	34–64	83	76–88	10.2	ND–18	11, 12, 14
Color	CU	15	ND	ND	ND	ND	ND	ND–6	13
Copper	ppm	1	0.004	ND–0.011	ND	ND	ND	ND	3, 18
Iron	ppb	300	42	ND–190	ND	ND	ND	ND	12, 15
Odor — Threshold	TON	3	ND	ND	1	1	ND	ND	13
Specific Conductance	µS/cm	1600	665	590–760	558	522–593	169	29–258	14, 16
Sulfate	ppm	500	34	23–39	61	48–84	16.6	0.8–33	11, 12, 15
Total Dissolved Solids	ppm	1000	380	330–450	307	274–358	71	ND–109	11, 12

UNREGULATED PARAMETERS									
PARAMETER	Unit	NL	Average	Range	Average	Range	Average	Range	
Boron	ppb	1000	160	110–230	165	137–222	NA	NA	
Chromium VI (Hexavalent Chromium)	ppb	NS	1.4	ND–3.1	ND	ND	NA	NA	
Vanadium	ppb	50	6.7	4.3–22	ND	ND	NA	NA	

OTHER WATER QUALITY PARAMETERS									
PARAMETER	Unit	MCL	Average	Range	Average	Range	Average	Range	
Hardness (as Calcium Carbonate)	ppm	NS	310	290–330	104	91–125	53	7–89	
pH	Units	NS	8.7 _c	7.0–9.7 _c	7.7	7.6–7.8	8.4	6.5–9.4	
Sodium	ppm	NS	29	22–41	67	62–70	12	3–18	
Temperature	°C	NS	16 _c	10–26 _c	19	14–23	NA	NA	

Important information about your water quality

Fluoride

Currently, all water from SFPUC is fluoridated while water from SCVWD, the City's other wholesale water provider is not. The City also 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 both. A map showing the areas is found below. **According to the Centers for Disease Control and Prevention, if a child under the age of six months is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance of dental fluorosis. Consult your child's health care provider for more information.**

Lead

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 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 two 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 water.epa.gov/drink/info/lead.

Nitrate

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants younger 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 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 specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from your health care provider.

Disinfection

Sunnyvale residents should know that the Sunnyvale system distributes 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. 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 service area. Residents on home dialysis should contact their physicians to discuss the impact on their treatment. The Western Pacific Renal Network, at (415) 897-2400, 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.

Hardness

Water hardness is determined mainly by the presence of calcium and magnesium salts. Although hard water does not pose a health risk, it may be considered undesirable for other reasons. Some benefits of water softening are reductions in soap usage, longer life for water heaters and a decrease in encrustation of pipes. Some disadvantages of water softening are an increase in sodium intake (depending on type of water softener used), an increase in maintenance and servicing requirements and potential adverse effects on salt-sensitive plants and landscaping. To convert hardness from ppm to grains per gallon, divide by 17.1. A hardness scale is provided below for your reference.

Hardness Classification	Grains per Gallon	mg/L or ppm
Soft	less than 1.0	less than 17.1
Slightly hard	1.0–3.5	17.1–60
Moderately hard	3.5–7.0	60–120
Hard	7.0–10.5	120–180
Very hard	over 10.5	over 180

HOW TO READ THIS CHART

DEFINITIONS OF KEY TERMS

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. MCLs are established by USEPA and CDPH.

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 the use of disinfectants to control microbial contaminants.

Notification Level (NL). Notification levels are health-based advisory levels established by CDPH for chemicals in drinking water that lack MCLs. When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply.

Primary Drinking Water Standard (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 Office of Environmental Health Hazard Assessment.

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

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

Total Organic Carbon (TOC). TOC has no health effects. However, TOC provides a medium for the formation of disinfection byproducts including trihalomethanes and haloacetic acids. Drinking water containing disinfection byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems or nervous system effects and may lead to an increased risk of cancer.

Turbidity. Turbidity has no health effects. It is a measure of the clarity of the water and is monitored because it is a good indicator of water quality and the effectiveness of a filtration system. The MCL for turbidity is based on the TT. For unfiltered water, the MCL is 5.0 NTU. For filtered water, the MCL is ≤0.3 NTU 95% of the time.

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

ABBREVIATIONS

°C	Degrees Celsius
CDPH	California Department of Public Health
CU	Color unit
Max	Maximum
NA	Not applicable
ND	Not detected
NS	No standard
NTU	Nephelometric turbidity unit
ppb	parts per billion (micrograms per liter)
ppm	parts per million (milligrams per liter)
µS/cm	microSiemens per centimeter
% pos	% positive
RAA	Running annual average
SCVWD	Santa Clara Valley Water District
SFPUC	San Francisco Public Utilities Commission
TOC	Total organic carbon
TON	Threshold odor number
USEPA	United States Environmental Protection Agency

- NOTES**
- ^a Single-highest sample result in 2013
 - ^b Range of monthly averages
 - ^c Levels in the distribution system

* TYPICAL SOURCES IN DRINKING WATER

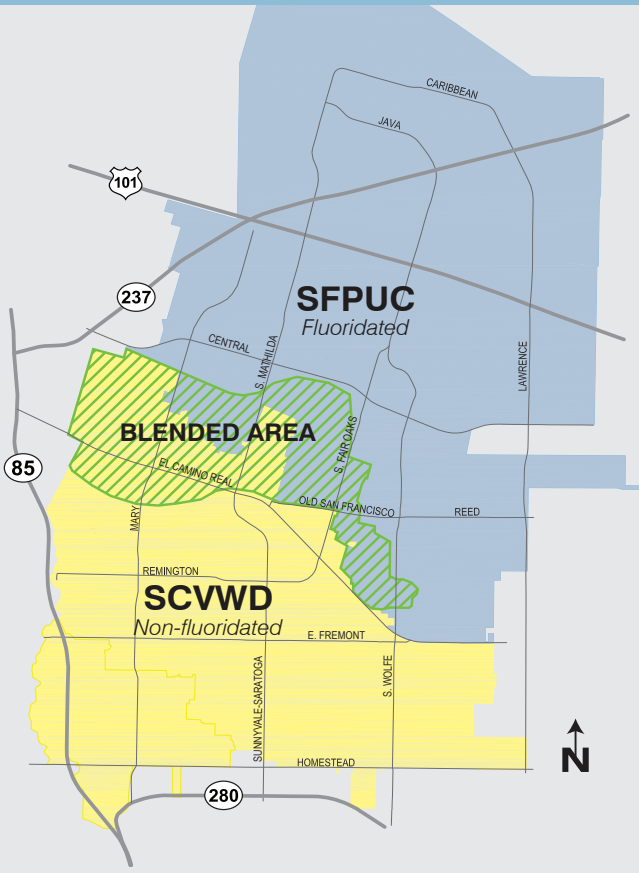
- 1 Naturally present in the environment
- 2 Soil runoff
- 3 Erosion of natural deposits
- 4 Residue from some surface water treatment processes
- 5 Water additive that promotes strong teeth
- 6 Discharge from fertilizer and aluminum factories
- 7 Runoff and leaching from fertilizer use
- 8 Leaching from septic tanks and sewage
- 9 By-product of drinking water disinfection
- 10 Various natural and man-made sources
- 11 Runoff from natural deposits
- 12 Leaching from natural deposits
- 13 Naturally-occurring organic materials
- 14 Seawater influence
- 15 Industrial wastes
- 16 Substances that form ions when in water
- 17 Internal corrosion of household plumbing systems
- 18 Leaching from wood preservatives
- 19 Discharges from industrial manufacturers
- 20 Drinking water disinfectant added for treatment
- 21 Discharges of oil drilling wastes and from metal refineries
- 22 Discharge from petroleum, glass, and metal refineries
- 23 Discharge from mines and chemical manufacturers
- 24 Runoff from livestock lots (feed additive)

SOURCE MAP

The adjacent map indicates which areas of the City are supplied by SFPUC, SCVWD or a mixture of the two. The colored regions correspond to the colored columns in the table above.

Groundwater wells, which are not shown on this map, are located throughout the City. Local groundwater is blended with surface water supplies from SFPUC and SCVWD.

SFPUC water is fluoridated but SCVWD and groundwater supplies are not.



IMPORTANT CONTACT INFORMATION

CITY CONTACTS

City of Sunnyvale

456 West Olive Ave.
Sunnyvale, CA 94086
Tel: (408) 730-7415
TDD: (408) 730-7501
Fax: (408) 730-7286
sunnyvale.ca.gov

Hours of Operation:
8 a.m. to 5 p.m., M–F

**Environmental Services
Department (Leaks, Breaks,
Water Quality Questions)**
(408) 730-7900

Utility Division (Billing)
(408) 730-7400, Residential
(408) 730-7681, Commercial

**Backflow and Cross-
Connection Control Program**
(669) 600-7322

**SCVWD Water Conservation
Hotline**
(408) 630-2554

To report water waste
(408) 630-2000

SCVWD Pollution Hotline
(888) 510-5151 (24 Hours)

WEB RESOURCES

Division of Drinking Water
waterboards.ca.gov/drinking_water/

US EPA
water.epa.gov/drink

**Department of
Water Resources**
www.dwr.water.ca.gov

**Bay Area Water Supply and
Conservation Agency**
bawasca.org

**American Water Works
Association**
awwa.org or DrinkTap.org

SCVWD
valleywater.org

SFPUC
sfwater.org

TO GET INVOLVED

To provide input on decisions that affect drinking water quality, you are welcome to speak on any issue specifically coming before the City Council at a regularly scheduled council meeting. You can also speak on any topic you wish to bring to the Council's attention during the "Public Comments" portion of the meeting agenda. Alternatively, you can send a letter in advance of a meeting.

City Council Meetings

City Hall Council Chambers
456 West Olive Ave.
Sunnyvale, CA 94086
Tuesdays, 7 p.m.

A list of City Council meetings, agenda items and study issues can be obtained by visiting sunnyvale.ca.gov or by calling the City Clerk's office at (408) 730-7483.



HEALTH & EDUCATION 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 USEPA Safe Drinking Water Hotline.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 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 USEPA Safe Drinking Water Hotline.

USEPA Safe Drinking Water Hotline ►
(800) 426-4791

Water System Improvements

The City of Sunnyvale is continuously replacing and upgrading aging water distribution infrastructure to ensure continued reliable water supply. The improvements will enhance water quality and improve operational efficiency. In the past year, the City has replaced over 5,000 feet of water pipelines and is planning upgrades to another one of our water pumping facilities. If you have questions about an upcoming project along your street, contact us at (408) 730-7900.

Recycled Water Project Approved

The City has collaborated with the SCVWD, California Water Service Company, the DWR, and Apple to fund and implement an exciting new project to extend the recycled water pipeline network. As part of the project, a booster pump station and 13,300 feet of recycled water pipeline will be constructed along Wolfe Road to funnel water from Sunnyvale's water recycling facility to serve many new customers, including the new Apple Campus 2 in Cupertino. The SCVWD expects construction to begin this fall.



Last year was one of the driest years on record for many parts of California. In January 2014, Governor Brown declared a drought state-of-emergency and called on all Californians to reduce their water usage by 20%. While Sunnyvale's water use has been trending downward, we must continue to use water wisely. Sunnyvale is working to ensure a reliable water supply, and you can continue to do your part by conserving water. To learn more visit save20gallons.org, valleywater.org/drought, and saveourwater.com.

The San Luis Reservoir is one of the supply reservoirs serving the SCVWD. Record low levels in this, and other supply reservoirs are prompting the State to implement water use restrictions throughout California.



CITY OF SUNNYVALE 2014 WATER QUALITY REPORT

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

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.

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

此份有關你的食水報告，內有重要資料和訊息，請找他人為你翻譯及解釋清楚。

この情報は重要です。翻訳を依頼してください。

이 소책자에는 식수수질 보고서의 내용을 요약한 당신의 수도물에 관한 중요한 정보가 적혀져있습니다. 이 정보를 이해하실수 있는 분에게 번역을 부탁드립니다.

यह सूचना महत्वपूर्ण है ।
कृपा करके किसी से :सका अनुवाद करायें ।

Last year your tap water met all state and federal drinking water health standards

The City of Sunnyvale aims to provide superior service while delivering a reliable, high-quality drinking water supply to our customers. Last year, your tap water met all state and federal drinking water health standards. The City vigilantly safeguards its water supplies, and once again, we are proud to report that our system has met or exceeded water quality standards.

WHAT'S INSIDE ►

Important information about your water

Water Use Restrictions

Ways to contact the City

Protecting your water supply

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) 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 provide the same protection for public health.

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. 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 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 application and septic systems.
- **Radioactive Contaminants** that can be naturally-occurring or be the result of oil and gas production and mining activities.

Protection begins in the watersheds. Protecting the water supply is important to ensure that water is safe from contamination and aesthetically pleasing for use. Contamination requires treatment, which increases the cost to deliver water to your tap. Here are ways that you can help protect our watershed:

- Eliminate excess use of lawn and garden fertilizers and pesticides
- Pick up after your pets
- Take used motor oil and other recyclables to the SMaRT Station ®
- Dispose of pharmaceuticals at any Sunnyvale fire station. Medications should not be flushed down drains or put in the garbage.
- Dispose of cleaners, chemicals and paints at a Household Hazardous Waste Drop-off Event
- Volunteer in your community. The Creek Connections Action Group works to protect the County's waterways. Visit www.cleanacreek.org.
- Participate in public meetings and forums. It allows decision-makers to hear your perspective and you to be involved in protecting your water supply.

More information about disposal and recycling ►
Call (408) 730-7262

SMaRT Station ®
301 Carl Road, Sunnyvale, CA 94089
Open daily, 8 a.m. to 5 p.m., Tel: (408) 752-8530

Household Hazardous Waste Drop-off
164 Carl Road, Sunnyvale, CA 94089
Every 3rd Saturday, 8 a.m. to 1 p.m.



Where your water comes from

The City of Sunnyvale has three different sources of drinking water supply: local groundwater, treated surface water from the Santa Clara Valley Water District (SCVWD) and treated surface water from the San Francisco Public Utilities Commission (SFPUC). There are also pockets of Sunnyvale customers who receive water from the California Water Service Company (Cal Water); questions regarding the source and delivery of water provided by Cal Water can be directed to its local office at (650) 917-0152.

Local Groundwater

The City owns, operates and maintains seven deep wells. The wells are used to help supplement the imported water supplies during peak demands in the summer months and emergency situations. The City is always working to increase flexibility in local groundwater supplies, enhance water quality, reduce operating costs, and increase reliability. Recent groundwater improvements include water well connections, electrical upgrades and installation of an emergency generator. Groundwater pumped from these wells is taxed by SCVWD.

The City completed a Drinking Water Source Assessment Program (DWSAP) in January 2003 for these groundwater sources. The City's groundwater sources are considered most vulnerable to

contamination by leaky underground fuel tanks, dry cleaning chemicals, sewer collection systems, old septic systems and machine shops.

SFPUC Supply

The City purchases a blend of Hetch Hetchy water and treated water from SFPUC to serve the northern part of the city. Filtered water turbidity from SFPUC met the standard of 0.3 NTU or less, 95% of the time.

The Hetch Hetchy Watershed provides most of the SFPUC water supply, supplemented by the Alameda watershed. The major water source originates from spring snowmelt flowing down the Tuolumne River and is stored in the Hetch Hetchy Reservoir. Since this water source meets all federal and state standards for watershed protection, disinfection treatment practices, bacteriological quality monitoring and

operations, the State has granted this water source a filtration exemption.

The Alameda Watershed spans more than 35,000 acres in Alameda and Santa Clara Counties. Surface water from rainfall and runoff is collected in the Calaveras and San Antonio Reservoirs. Prior to distribution, the water from these reservoirs is treated. Fluoridation, chloramination and corrosion control treatment are provided for the combined Hetch Hetchy and treated water. Fluoride is added to the naturally occurring level to help protect against tooth decay. In 2014, average fluoride levels in the treated water were maintained within a range of 0.6-1.2 mg/L as required by the State Board. Since May 2015, water has been fluoridated at the new optimum level of 0.7 mg/L.

The SFPUC actively protects the water resources entrusted to its care. Its annual update of the Hetch Hetchy Watershed Sanitary Survey evaluates the sanitary conditions, water quality, potential contamination sources and the results of watershed

management activities with partner agencies (such as the National Park Service and US Forest Service). The SFPUC also conducts sanitary surveys every five years to detect and track sanitary concerns for the Bay Area watersheds and the approved standby water sources in Early Intake Watershed, which includes Cherry Lake and Lake Eleanor. The latest 5-year surveys were completed in 2011 for the period of 2006-2010. These surveys identified wildlife, stock and human activities as potential contamination sources. They are available for review at the DDW San Francisco District office.

More information on SFPUC ►
Visit sfwater.org, or call DDW (510) 620-3474

SCVWD Supply

The City purchases treated surface water from SCVWD and delivers it to the southern portion of the city. SCVWD imports more than half of its supply from the South Bay Aqueduct,



Dyer Reservoir, Lake Del Valle and San Luis Reservoir, which all draw water from the Sacramento-San Joaquin Delta Watershed. SCVWD local surface water sources include Anderson and Calero Reservoirs. SCVWD source waters are vulnerable to potential contamination from a variety of land use practices such as agricultural and urban runoff, recreational activities, livestock grazing and residential and industrial development. Imported sources are vulnerable to wastewater treatment

plant discharges, seawater intrusion and wildfires in watershed areas. Local sources are also vulnerable to contamination from commercial stables and historic mining practices. No contaminant associated with any of these activities has been detected in SCVWD treated water. Water treatment plants provide multiple barriers for physical removal and disinfection of contaminants.

More information on SCVWD ►
Visit valleywater.org

DROUGHT DECLARATION

In response to the ongoing drought and actions by the Governor and the State Water Board, the Sunnyvale City Council took several actions in June 2014 by declaring a Water Shortage Emergency and setting a 15% water reduction goal for 2014 as compared to 2013 use. Most recently in May 2015, following the worst snow pack on record and worsening drought conditions, the Council expanded the Water Shortage Emergency actions by calling for a 30% water reduction as compared to 2013 use, restricting watering days, and approving enforcement staffing and actions through June of 2016.



Prohibited water use in Sunnyvale:

- Washing down sidewalks, driveways, and other paved services
- Watering outdoor landscapes in a manner that causes excess runoff into gutters, streets, or stormdrains
- Washing a motor vehicle with a hose, unless the hose is fitted with a shut-off nozzle
- Operating a fountain or decorative water feature, unless the water is part of a recirculating system
- Allowing leaking plumbing or irrigation systems to go unfixed.

- Irrigating with sprinklers is prohibited between 9 a.m. – 6 p.m. when daylight savings time is in effect. Each station is limited to no more than 15 minutes of irrigation time

Additional City prohibitions affecting commercial businesses:

- Restaurants and other food service establishments can only serve water to customers on request
- Operators of hotels and motels must provide guests with the option to not have towels and linens laundered daily and prominently display notice of this option

New water use restrictions and enforcement

Sunnyvale worked closely with the Water District and neighboring water retailers to implement a consistent county-wide approach to new water use reductions and restrictions. On May 12, 2015, the City Council adopted the following measures:

- Set the following irrigation schedule:
 - Even Address – Tuesday and Friday
 - Odd Address / No Address – Monday and Thursday
- Prohibited Irrigating turf or ornamental landscapes within 48 hours following measurable precipitation
- Adopted the following enforcement actions for water restriction violations:
 - First violation: written warning
 - Second violation: written warning
 - Third violation: \$250 citation
 - Forth and subsequent violations: \$500 citation

To stay up-to-date on water conservation efforts, requirements, rebate programs, and water saving tips, visit WaterConservation.inSunnyvale.com or, the SCVWD at valleywater.org. Please report water waste at (408) 630-2000 or by email at drought@valleywater.org.

2014

WATER QUALITY TEST RESULTS

The City of Sunnyvale has instituted a comprehensive water quality monitoring program that encompasses City-owned wells and all water purchased from SFPUC and SCVWD. This program ensures that all of our customers receive water that complies with all regulatory criteria and that no maximum contaminant levels (MCLs) or maximum contaminant level goals (MCLGs) for regulated chemicals, bacteria or pollutants are exceeded.

In order to ensure water quality standards are met, drinking water samples are collected weekly throughout Sunnyvale and analyzed for a variety of regulated and unregulated contaminants. Samples are tested by the City's certified laboratory and by an independent certified laboratory using the latest testing procedures and equipment. We collect more samples than required by the State Board to provide you with the highest quality of water at all times. In addition, the City's wholesalers, SCVWD and SFPUC, conduct their own testing before delivering water to the City. Such measures help us to continue meeting established water quality standards.

The table to the right shows the results of the distribution system and source water analyses conducted by the City, SCVWD and SFPUC. Water quality data are grouped by water source. Last year we conducted more than 20,000 tests for more than 80 parameters. We detected only 14 of these parameters, and none were detected at levels higher than the State Board allows.



Only the parameters detected are shown. Other constituents were analyzed but are not listed because they were not detected. Additionally, unregulated parameters are shown to provide you with supplemental information.

Some data—although representative—were collected prior to 2014, as the State Board requires monitoring for some constituents less than once per year since the concentrations of these constituents do not vary frequently or significantly.

More information ►

For more information about this report or the City's water quality monitoring program, please contact:

John Ramirez
City of Sunnyvale
Water Operations Manager
Tel: (408) 730-7900
TDD: (408) 730-7501
jramirez@sunnyvale.ca.gov

PRIMARY DRINKING WATER STANDARDS (PUBLIC HEALTH RELATED STANDARDS)										
PARAMETER	Unit	MCL, (AL), or [MRDL]	PHG, (MCLG), or [MRDLG]	Groundwater Well		SCVWD		SFPUC		Typical Sources*
				Average or [Max]	Range	Average or [Max]	Range	Average or [Max]	Range	
SOURCE WATER SAMPLING										
INORGANIC CHEMICALS										
Aluminum	ppm	1	0.6	ND	ND	ND	ND–0.070	ND	ND	3, 4
Barium	ppm	1	2	0.11	0.10–0.13	ND	ND	ND	ND	3, 21
Fluoride	ppm	2	1	0.20	0.14–0.24	ND	ND–0.1	0.4	ND–0.8	3, 5, 6
Chromium VI (Hexavalent Chromium)	ppb	10	0.02	1.3	ND–3.6	ND	ND	ND	ND	3, 18, 19, 22
Turbidity	NTU	TT	NA	0.2	ND–1.2	0.07	0.06–0.08	[2.8] _a	0.2–0.6 _b	2
Nitrate	ppm	45	45	16	11–27	ND	ND–5	ND	ND	3, 7, 8
DISINFECTION BYPRODUCT PRECURSORS										
TOC (precursor control)	ppm	TT	NA			2.03	1.86–2.19	1.9	1.3–2.8	10
MICROBIOLOGICAL										
Giardia Lamblia	cyst/L	TT	(0)			ND	ND	ND	ND–0.04	1
DISTRIBUTION SYSTEM SAMPLING										
LEAD AND COPPER RULE STUDY (SUNNYVALE 2013 AT-THE-TAP SAMPLING)				90th Percentile		# of Samples Above AL				
Lead	ppb	(15)	0.2	1		0 out of 53			3, 17, 19	
Copper	ppm	(1.3)	0.3	0.079		0 out of 53			3, 17, 18	
DISINFECTION RESIDUALS AND BYPRODUCTS				Highest Location RAA		Range				
Disinfectant Residual as Chlorine	ppm	[4]	[4]	2.17		0.01–3.3			20	
Total Trihalomethanes	ppb	80	NA	59.5		ND–74.8			9	
Haloacetic Acids	ppb	60	NA	29		ND–32			9	
MICROBIOLOGICAL				Average		Range				
Total Coliform Bacteria	% pos / month	5.0%	(0)	0.16%		0–0.7%			1	
SECONDARY DRINKING WATER STANDARDS (AESTHETIC STANDARDS)										
PARAMETER	Unit	MCL		Average	Range	Average	Range	Average	Range	Sources*
Aluminum	ppb	200		ND	ND	ND	ND–70	ND	ND	3, 4
Chloride	ppm	500		44	34–64	115	95–166	9	ND–15	11, 12, 14
Copper	ppm	1		0.004	ND–0.011	ND	ND	ND	ND	3, 18
Iron	ppb	300		42	ND–190	ND	ND	ND	ND	12, 15
Odor — Threshold	TON	3		ND	ND	1	1–2	ND	ND–1	13
Specific Conductance	µS/cm	1600		665	590–760	731	650–964	151	32–222	14, 16
Sulfate	ppm	500		34	23–39	76.7	56.4–111	17	0.9–32	11, 12, 15
Total Dissolved Solids	ppm	1000		380	330–450	424	360–540	81	31–120	11, 12
UNREGULATED PARAMETERS FOR UCMR ³										
PARAMETER	Unit	NL		Average	Range	Average	Range	Average	Range	
Chlorate	ppb	800		81	45–130	129	95–160	314	34–740	
Chlorodifluoromethane (HCFC-22)	ppb	NS		0.52	ND–2.2	NA	NA	NA	NA	
Molybdenum	ppb	NS		1.2	ND–1.6	2	1–3	NA	NA	
Strontium	ppb	NS		404	280–500	NA	NA	NA	NA	
Vanadium	ppb	50		1.6	ND–5.2	ND	ND	NA	NA	
OTHER WATER QUALITY PARAMETERS										
PARAMETER	Unit	MCL		Average	Range	Average	Range	Average	Range	
Hardness (as Calcium Carbonate)	ppm	NS		310	290–330	149	130–178	46	7–77	
pH	Units	NS		8.4 _c	7.1–9.6 _c	7.7	7.6–7.8	9.3	6.9–10.2	
Sodium	ppm	NS		29	22–41	64	ND–121	10	2.4–16	
Temperature	°C	NS		18 _c	10–26 _c	19	14–22	NA	NA	

Important information about your water quality

Fluoride

Currently, all water from SFPUC is fluoridated while water from SCVWD, the City's other wholesale water provider is not. The City also 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 both. A map showing the areas is found below. **According to the Centers for Disease Control and Prevention, if a child under the age of six months is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance of dental fluorosis. Consult your child's health care provider for more information.**

Lead

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 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 two 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 water.epa.gov/drink/info/lead.

Nitrate

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants younger 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 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 specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from your health care provider.

Chromium-6

On July 1, 2014, the new MCL of 10 ppb became effective for Chromium-6. Until then, chromium-6 was regulated under the 50 ppb primary drinking water standard for total chromium, which was established in California in 1977. The City is pleased to report that there have been no detections exceeding the new MCL.

Disinfection

The Sunnyvale system distributes water disinfected with chloramine and well water that is tested but not treated. Chloramine, a combination of chlorine and ammonia, 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. The water provided by SFPUC and SCVWD is disinfected with chloramines, which can affect dialysis treatment. Residents on home dialysis should contact their physicians to discuss the impact on their treatment. The Western Pacific Renal Network, at (415) 897-2400, can provide more information about chloramines and dialysis. Fish and aquarium owners should check with their local pet stores for information on chloramine removal.

Hardness

Water hardness is determined mainly by the presence of calcium and magnesium salts. Although hard water does not pose a health risk, it may be considered undesirable for other reasons. Some benefits of water softening are reductions in soap usage, longer life for water heaters and a decrease in encrustation of pipes; disadvantages are an increase in sodium intake, an increase in maintenance and servicing and potential adverse effects on salt-sensitive plants. To convert hardness from ppm to grains per gallon, divide by 17.1. A hardness scale is provided below for your reference.

Hardness Classification	Grains per Gallon	mg/L or ppm
Soft	less than 1.0	less than 17.1
Slightly hard	1.0-3.5	17.1-60
Moderately hard	3.5-7.0	60-120
Hard	7.0-10.5	120-180
Very hard	over 10.5	over 180

HOW TO READ THIS CHART

DEFINITIONS OF KEY TERMS

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. MCLs are established by USEPA and the State Board.

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 the use of disinfectants to control microbial contaminants.

Notification Level (NL). Notification levels are health-based advisory levels established by the State Board for chemicals in drinking water that lack MCLs. When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply.

Primary Drinking Water Standard (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 Office of Environmental Health Hazard Assessment.

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

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

Total Organic Carbon (TOC). TOC has no health effects. However, TOC provides a medium for the formation of disinfection byproducts including trihalomethanes and haloacetic acids. Drinking water containing disinfection byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems or nervous system effects and may lead to an increased risk of cancer.

Turbidity. Turbidity has no health effects. It is a measure of the clarity of the water and is monitored because it is a good indicator of water quality and the effectiveness of a filtration system. The MCL for turbidity is based on the TT. For unfiltered water, the MCL is 5.0 NTU. For filtered water, the MCL is ≤0.3 NTU 95% of the time.

UCMR. Unregulated Contaminant Monitoring Rule requires monitoring for contaminants not currently regulated. This monitoring provides a basis for future regulatory actions to protect public health.

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

ABBREVIATIONS

°C	Degrees Celsius
CU	Color unit
DDW	Division of Drinking Water
Max	Maximum
NA	Not applicable
ND	Not detected
NS	No standard
NTU	Nephelometric turbidity unit
ppb	parts per billion (micrograms per liter)
ppm	parts per million (milligrams per liter)
µS/cm	microSiemens per centimeter
% pos	% positive
RAA	Running annual average
SCVWD	Santa Clara Valley Water District
SFPUC	San Francisco Public Utilities Commission
TOC	Total organic carbon
TON	Threshold odor number
USEPA	United States Environmental Protection Agency

NOTES

- Single-highest sample result in 2014
- Range of monthly averages
- Levels in the distribution system

* TYPICAL SOURCES IN DRINKING WATER

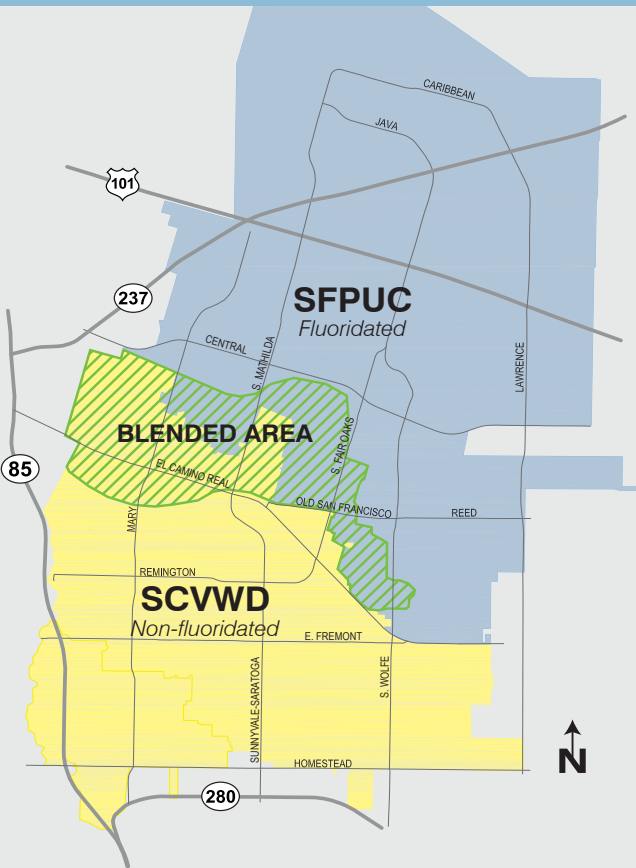
- Naturally present in the environment
- Soil runoff
- Erosion of natural deposits
- Residue from some surface water treatment processes
- Water additive that promotes strong teeth
- Discharge from fertilizer and aluminum factories
- Runoff and leaching from fertilizer use
- Leaching from septic tanks and sewage
- By-product of drinking water disinfection
- Various natural and man-made sources
- Runoff from natural deposits
- Leaching from natural deposits
- Naturally-occurring organic materials
- Seawater influence
- Industrial wastes
- Substances that form ions when in water
- Internal corrosion of household plumbing systems
- Leaching from wood preservatives
- Discharges from industrial manufacturers
- Drinking water disinfectant added for treatment
- Discharges of oil drilling wastes and from metal refineries
- Discharge from mines and chemical manufacturers

SOURCE MAP

The adjacent map indicates which areas of the City are supplied by SFPUC, SCVWD or a mixture of the two. The colored regions correspond to the colored columns in the table above.

Groundwater wells, which are not shown on this map, are located throughout the City. Local groundwater is blended with surface water supplies from SFPUC and SCVWD.

SFPUC water is fluoridated but SCVWD and groundwater supplies are not.



IMPORTANT CONTACT INFORMATION

CITY CONTACTS

City of Sunnyvale

456 West Olive Ave.
Sunnyvale, CA 94086
Tel: (408) 730-7415
TDD: (408) 730-7501
Fax: (408) 730-7286
sunnyvale.ca.gov

Hours of Operation: 8 a.m. to 5 p.m., M–F

**Environmental Services
Department (Leaks, Breaks,
Water Quality Questions)**
(408) 730-7900

Utility Division (Billing)
(408) 730-7400, Residential
(408) 730-7681, Commercial

**Backflow and Cross-
Connection Control Program**
(669) 600-7322

**SCVWD Water Conservation
Hotline**
(408) 630-2554

To report water waste
(408) 630-2000

SCVWD Pollution Hotline
(888) 510-5151 (24 Hours)

WEB RESOURCES

Division of Drinking Water
waterboards.ca.gov/drinking_water/

US EPA
water.epa.gov/drink

**Department of
Water Resources**
www.dwr.water.ca.gov

**Bay Area Water Supply and
Conservation Agency**
bawscs.org

**American Water Works
Association**
awwa.org or DrinkTap.org

SCVWD
valleywater.org

SFPUC
sfwater.org

TO GET INVOLVED

To provide input on decisions that affect drinking water quality, you are welcome to speak on any issue specifically coming before the City Council at a regularly scheduled council meeting. You can also speak on any topic you wish to bring to the Council's attention during the "Oral Communications" portion of the meeting agenda. Alternatively, you can send a letter in advance of a meeting.

City Council Meetings

City Hall Council Chambers
456 West Olive Ave.
Sunnyvale, CA 94086
Tuesdays, 7 p.m.

A list of City Council meetings, agenda items and study issues can be obtained by visiting sunnyvale.ca.gov or by calling the City Clerk's office at (408) 730-7483.



Sunnyvale has three City-operated swimming pools and one contracted pool available to the public. With summer fast approaching and water conservation on the mind, considering keeping a cover on your pool and using one of our public pools. We offer aquatic programs at each facility including recreational swim, swim lessons for all ages, water exercise classes and various American Red Cross courses such as Lifeguard Training and First Aid and CPR. Lifeguards are on duty during recreation swim hours. For more information about pool locations, hours and programs, visit sunnyvale.ca.gov/Departments/CommunityServices/SwimmingandAquatics.aspx

HEALTH AND EDUCATION 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 USEPA Safe Drinking Water Hotline.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 from their health care providers.

USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline.

USEPA Safe Drinking Water Hotline ►
(800) 426-4791

Water Conservation Rebate Programs

Residential High-Efficiency Clothes Washer Rebate Program.

The Santa Clara Valley Water District has a rebate program for purchasing and installing a qualifying Energy Star Most Efficient clothes washer. Santa Clara County residents may be eligible to receive up to \$150 for a combined water agency and PG&E rebate while funding is available. For information, visit valleywater.org/Programs/High-EfficiencyClothesWasherRebate.aspx

Turf Replacement Rebate Program. The Department of Water Resources has a rebate program for removing turf and replacing it with landscapes that require little water at California single-family residences to support the State's drought response. Up to \$2 per square foot of removed and replaced turf will be rebated per eligible household. For information visit saveourwaterrebates.com

Toilet Replacement Rebate Program. The Department of Water Resources has a rebate program that provides rebates for replacing toilets at California single-family residences to support the State's drought response. Up to \$100 will be rebated for purchase and installation of one qualified high-efficiency toilet (1.28 gallons per flush or less) per household that replaces a less-efficient toilet (using more than 1.6 gallons per flush). For information visit saveourwaterrebates.com



CITY OF SUNNYVALE 2015 WATER QUALITY REPORT

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

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.

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

此份有關你的食水報告，內有重要資料和訊息，請找他人為你翻譯及解釋清楚。

この情報は重要です。翻訳を依頼してください。

이 소책자에는 식수수질 보고서의 내용을 요약한 당신의 수도물에 관한 중요한 정보가 적혀져있습니다. 이 정보를 이해하실수 있는 분에게 번역을 부탁하십시오.

यह सूचना महत्वपूर्ण है ।
कृपा करके किसी से :सका अनुवाद करायें ।

Last year your tap water met all state and federal drinking water health standards

The City of Sunnyvale aims to provide superior service while delivering a reliable, high-quality drinking water supply to our residents. Last year, your tap water met all state and federal drinking water health standards. The City vigilantly safeguards its water supplies, and once again, we are proud to report that our system has met or exceeded water quality standards.

WHAT'S INSIDE ►

Important information about your water

Water conservation

Ways to contact the City

Protecting your water supply

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) 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 provide the same protection for public health.

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. 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 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 application and septic systems.
- **Radioactive Contaminants** that can be naturally-occurring or be the result of oil and gas production and mining activities.

Protection begins in the watersheds. Protecting the water supply is important to ensure that water is safe from contamination and aesthetically pleasing for use. Contamination requires treatment, which increases the cost to deliver water to your tap. Here are ways that you can help protect our watershed:

- Eliminate excess use of lawn and garden fertilizers and pesticides.
- Pick up after your pets.
- Take used motor oil and other recyclables to the SMaRT Station.
- Dispose of pharmaceuticals at any Sunnyvale fire station. Medications should not to be flushed down drains or put in the garbage.
- Dispose of cleaners, chemicals and paints at a Household Hazardous Waste Drop-off Event.
- Volunteer in your community. The Creek Connections Action Group works to protect the County's waterways. Visit www.cleanacreek.org.
- Participate in public meetings and forums. It allows decision-makers to hear your perspective and you to be involved in protecting your water supply.

More information about disposal and recycling ►
Call (408) 730-7262

SMaRT Station
301 Carl Road, Sunnyvale, CA 94089
Open daily, 8 a.m. to 5 p.m., Tel: (408) 752-8530

Household Hazardous Waste Drop-off
164 Carl Road, Sunnyvale, CA 94089
Every 3rd Saturday, 8 a.m. to 1 p.m.



Where your water comes from

The City of Sunnyvale has three different sources of drinking water supply: local groundwater, treated surface water from the Santa Clara Valley Water District (SCVWD) and treated surface water from the San Francisco Public Utilities Commission (SFPUC). There are also pockets of Sunnyvale customers who receive water from the California Water Service Company (Cal Water); questions regarding the source and delivery of water provided by Cal Water can be directed to its local office at (650) 917-0152.

Local Groundwater

The City owns, operates and maintains six deep wells. The wells are used to help supplement the imported water supplies during peak demands in the summer months and emergency situations. The City is always working to increase flexibility in local groundwater supplies, enhance water quality, reduce operating costs and increase reliability. Recent groundwater improvements include water well connections, electrical upgrades and installation of an emergency generator. Groundwater pumped from these wells is taxed by SCVWD.

The City completed a Drinking Water Source Assessment Program (DWSAP) in January 2003 for these groundwater sources. The City's groundwater sources are considered most vulnerable to

contamination by leaky underground fuel tanks, dry cleaning chemicals, sewer collection systems, old septic systems and machine shops.

SFPUC Supply

The City purchases a blend of Hetch Hetchy water and treated water from SFPUC to serve the northern part of the city. Filtered water turbidity from SFPUC met the standard of 0.3 NTU or less, 95% of the time.

The Hetch Hetchy Watershed provides most of the SFPUC water supply, supplemented by the Alameda watershed. The major water source originates from spring snowmelt flowing down the Tuolumne River and is stored in the Hetch Hetchy Reservoir. Since this water source meets all federal and state standards for watershed protection, disinfection treatment practices, bacteriological quality monitoring and

operations, the State has granted this water source a filtration exemption.

The Alameda Watershed spans more than 35,000 acres in Alameda and Santa Clara counties. Surface water from rainfall and runoff is collected in the Calaveras and San Antonio Reservoirs. Prior to distribution, the water from these reservoirs is treated. Fluoridation, chloramination and corrosion control treatment are provided for the combined Hetch Hetchy and treated water. Fluoride is added to the naturally occurring level to help protect against tooth decay. In 2015, average fluoride levels in the treated water were maintained within a range of 0.6-1.0 mg/L as required by the State Board. Since May 2015, water has been fluoridated at the new optimum level of 0.7 mg/L.

The SFPUC actively protects the water resources entrusted to its care. Its annual update of the Hetch Hetchy Watershed Sanitary Survey evaluates the sanitary conditions, water quality, potential contamination sources and the results of watershed

management activities with partner agencies (such as the National Park Service and US Forest Service). The SFPUC also conducts sanitary surveys every five years to detect and track sanitary concerns for the Bay Area watersheds and the approved standby water sources in Early Intake Watershed, which includes Cherry Lake and Lake Eleanor. The latest 5-year surveys were completed in 2011 for the period of 2006-2010. These surveys identified wildlife, stock and human activities as potential contamination sources. To review them at the District office, contact DDW at (510) 620-3474.

More information on SFPUC ►
[Visit sfwater.org](http://Visit.sfwater.org)

SCVWD Supply

The City purchases treated surface water from SCVWD and delivers it to the southern portion of the city. SCVWD imports more than half of its supply from the South Bay Aqueduct, Dyer Reservoir, Lake Del Valle and San Luis Reservoir, which all draw



water from the Sacramento-San Joaquin Delta Watershed. SCVWD local surface water sources include Anderson and Calero Reservoirs. SCVWD source waters are vulnerable to potential contamination from a variety of land use practices such as agricultural and urban runoff, recreational activities, livestock grazing, and residential and industrial development. Imported sources are vulnerable to wastewater treatment plant discharges, seawater intrusion and wildfires in watershed areas.

Local sources are also vulnerable to contamination from commercial stables and historic mining practices. No contaminant associated with any of these activities has been detected in SCVWD treated water. Water treatment plants provide disinfection and multiple barriers for physical removal of contaminants. To review the DWSAP, contact DDW at (510) 620-3474.

More information on SCVWD ►
[Visit valleywater.org](http://Visit.valleywater.org)

WATER CONSERVATION

While water supply conditions have improved after four years of drought, continued water conservation efforts are critical until state and local water reservoirs are back to normal levels. Below is a list of ongoing prohibited water use in Sunnyvale.



Prohibited water use in Sunnyvale:

- Watering outdoor landscapes in a manner that causes excess runoff into gutters, streets, or stormdrains
- Washing a motor vehicle with a hose, unless the hose is fitted with a shut-off nozzle
- Allowing leaking plumbing or irrigation systems to go unfixed.
- Irrigating with sprinklers is prohibited between 9 a.m. – 6 p.m. when daylight savings time is in effect. Each station is limited to no more than 15 minutes of irrigation time.

Additional City prohibitions affecting commercial businesses:

- Restaurants and other food service establishments can only serve water to customers on request
- Operators of hotels and motels must provide guests with the option to not have towels and linens laundered daily and prominently display notice of this option

To stay up-to-date on water conservation efforts, requirements, rebate programs and water saving tips, visit WaterConservation.inSunnyvale.com or, the SCVWD at valleywater.org. Please report water waste at (408) 630-2000 or by email at drought@valleywater.org.

Steps to Save Water Indoors

- Check toilets and faucets for leaks. You could save thousands of gallons.
- Install water-efficient faucet aerators and showerheads in your kitchen and bathrooms.
- Take shorter showers. You will save 2.5 gallons of water each minute.
- Only wash full loads of laundry and dishes.
- Replace your old top-loading clothes washer with a high-efficiency model.

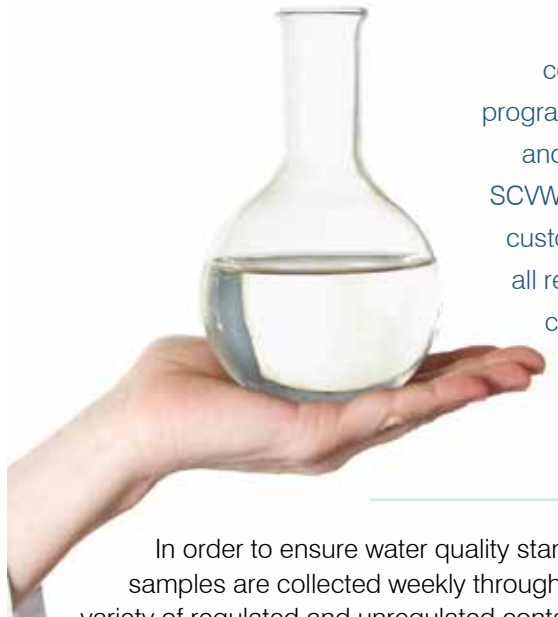
Steps to Save Water Outdoors

- Plant native or drought-tolerant plants that require less watering.
- Apply organic mulch around plants to reduce moisture loss, keep weed-growth down and promote healthier soil.
- Water during cool parts of the day and deeply soak your lawn to ensure moisture reaches the roots.
- Water your lawn only when it needs it.
- Use a broom to sweep off pavement. Using a hose wastes money and water.

2015

WATER QUALITY TEST RESULTS

The City of Sunnyvale has instituted a comprehensive water quality monitoring program that encompasses City-owned wells and all water purchased from SFPUC and SCVWD. This program ensures that all of our customers receive water that complies with all regulatory criteria and that no maximum contaminant levels (MCLs) or maximum contaminant level goals (MCLGs) for regulated chemicals, bacteria or pollutants are exceeded.



In order to ensure water quality standards are met, drinking water samples are collected weekly throughout Sunnyvale and analyzed for a variety of regulated and unregulated contaminants. Samples are tested by the City's certified laboratory and by an independent certified laboratory using the latest testing procedures and equipment. We collect more samples than required by the State Board to provide you with the highest quality of water at all times. In addition, the City's wholesalers, SCVWD and SFPUC, conduct their own testing before delivering water to the City. Such measures help us to continue meeting established water quality standards.

The table to the right shows the results of the distribution system and source water analyses conducted by the City, SCVWD and SFPUC. Water quality data are grouped by water source. Last year we conducted more than 20,000 tests for more than 80 parameters. We detected only 14 of these parameters, and none were detected at levels higher than the State Board allows.

Only the parameters detected are shown. Other constituents were analyzed but are not listed because they were not detected. Additionally, unregulated parameters are shown to provide you with supplemental information.

Some data—although representative—were collected prior to 2015, as the State Board requires monitoring for some constituents less than once per year since the concentrations of these constituents do not vary frequently or significantly.



More information ►

For more information about this report or the City's water quality monitoring program, please contact:

John Ramirez
City of Sunnyvale
Water Operations Manager
Tel: (408) 730-7900
TDD: (408) 730-7501
jramirez@sunnyvale.ca.gov

PRIMARY DRINKING WATER STANDARDS (PUBLIC HEALTH RELATED STANDARDS)										
PARAMETER	Unit	MCL, (AL), or [MRDL]	PHG, (MCLG), or [MRDLG]	Groundwater Well		SCVWD		SFPUC		Typical Sources*
				Average or [Max]	Range	Average or [Max]	Range	Average or [Max]	Range	
SOURCE WATER SAMPLING										
INORGANIC CHEMICALS										
Barium	ppm	1	2	0.10	ND–0.13	ND	ND	ND	ND	3, 21
Fluoride	ppm	2	1	0.14	0.13–0.16	ND	ND–0.1	0.3	ND–0.8	3, 5, 6
Chromium VI (Hexavalent Chromium)	ppb	10	0.02	1.3	ND–3.6	ND	ND	ND	ND	3, 18, 19, 22
Nitrate (as Nitrogen)	ppm	10	10	3.7	2.5–6.3	ND	ND–5	ND	ND	3, 7, 8
RADIONUCLIDES										
Uranium	pCi/L	20	0.43	ND	ND	ND	ND–1.0	ND	ND	3
DISINFECTION BYPRODUCT PRECURSORS										
TOC (precursor control)	ppm	TT	NA			2.69	1.90–3.07	2.1	1.4–5.2	10
MICROBIOLOGICAL										
Giardia Lamblia	cyst/L	TT	(0)			ND	ND	0.01	ND–0.08	1
Turbidity	NTU	TT _a	NA			[0.60]	99.9% _b	[3.1]	97–100% _b	2
DISTRIBUTION SYSTEM SAMPLING										
LEAD AND COPPER RULE STUDY (SUNNYVALE 2013 AT-THE-TAP SAMPLING)				90th Percentile		# of Samples Above AL				
Lead	ppb	(15)	0.2	1		0 out of 53		3, 17, 19		
Copper	ppm	(1.3)	0.3	0.079		0 out of 53		3, 17, 18		
DISINFECTION RESIDUALS AND BYPRODUCTS				Highest Location RAA		Range				
Disinfectant Residual as Chlorine	ppm	[4]	[4]	1.79		0.02–4.6		20		
Total Trihalomethanes	ppb	80	NA	60.7		25.7–60.8		9		
Haloacetic Acids	ppb	60	NA	28.8		10.0–35.0		9		
MICROBIOLOGICAL				Average		Range				
Total Coliform Bacteria	% pos / month	5.0%	(0)	0.17%		0–0.7%		1		
SECONDARY DRINKING WATER STANDARDS (AESTHETIC STANDARDS)										
PARAMETER	Unit	MCL		Average	Range	Average	Range	Average	Range	Sources*
Chloride	ppm	500		47	36–68	103	87–120	8.4	ND–16	11, 12, 14
Odor — Threshold	TON	3		ND	ND	1	1	ND	ND	13
Specific Conductance	μS/cm	1600		677	610–740	696	636–749	144	34–213	14, 16
Sulfate	ppm	500		37	28–42	72.1	66.0–79.3	15	1.2–30	11, 12, 15
Total Dissolved Solids	ppm	1000		395	360–430	381	330–424	54	ND–93	11, 12
Zinc	ppm	5		0.07	ND–0.09	ND	ND	ND	ND	11, 12, 15
UNREGULATED PARAMETERS FOR UCMR ³										
PARAMETER	Unit	NL		Average	Range	Average	Range	Average	Range	
Chlorate	ppb	800		81	45–130	116	62–160	157	39–280	
Chlorodifluoromethane (HCFC-22)	ppb	NS		0.52	ND–2.2	NA	NA	NA	NA	
Molybdenum	ppb	NS		1.2	ND–1.6	2	2	NA	NA	
Strontium	ppb	NS		404	280–500	NA	NA	NA	NA	
Vanadium	ppb	50		1.6	ND–5.2	ND	ND	NA	NA	
OTHER WATER QUALITY PARAMETERS										
PARAMETER	Unit	MCL		Average	Range	Average	Range	Average	Range	
Hardness (as Calcium Carbonate)	ppm	NS		322	300–340	144	133–163	42	13–65	
pH	Units	NS		8.7 _c	7.1–9.9 _c	7.7	7.5–8.0	9.0	7.1–9.9	
Sodium	ppm	NS		29	23–42	75	64–90	13	2.9–19	
Temperature	°C	NS		18 _c	7–26 _c	17	15–20	NA	NA	

Important information about your water quality

Fluoride

Currently, all water from SFPUC is fluoridated while water from SCVWD, the City's other wholesale water provider is not. The City also 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 both. A map showing the areas is found below. **According to the Centers for Disease Control and Prevention, if a child under the age of six months is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance of dental fluorosis. Consult your child's health care provider for more information.**

Lead

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 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 two minutes before using water for drinking or cooking. If you do so, you may wish to collect the flushed water and use it for another purpose, such as watering plants. 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 at (800) 426-4791 or at water.epa.gov/lead.

Chromium-6

On July 1, 2014, the new MCL of 10 ppb became effective for Chromium-6. Until then, chromium-6 was regulated under the 50 ppb primary drinking water standard for total chromium, which was established in California in 1977. The City is pleased to report that there have been no detections exceeding the new MCL.

Hardness Classification	Grains per Gallon	mg/L or ppm
Soft	less than 1.0	less than 17.1
Slightly hard	1.0–3.5	17.1–60
Moderately hard	3.5–7.0	60–120
Hard	7.0–10.5	120–180
Very hard	over 10.5	over 180

Nitrate

Nitrate in drinking water at levels above 10 mg/L is a health risk for infants younger 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 serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from your health care provider.

Disinfection

The Sunnyvale system distributes water disinfected with chloramine and well water that is tested but not treated. Chloramine, a combination of chlorine and ammonia, 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. The water provided by SFPUC and SCVWD is disinfected with chloramines, which can affect dialysis treatment. Residents on home dialysis should contact their physicians to discuss the impact on their treatment. The Western Pacific Renal Network, at (415) 897-2400, can provide more information about chloramines and dialysis. Fish and aquarium owners should check with their local pet stores for information on chloramine removal.

Hardness

Water hardness is determined mainly by the presence of calcium and magnesium salts. Although hard water does not pose a health risk, it may be considered undesirable for other reasons. Some benefits of water softening are reductions in soap usage, longer life for water heaters and a decrease in encrustation of pipes; disadvantages are an increase in sodium intake, an increase in maintenance and servicing and potential adverse effects on salt-sensitive plants. To convert hardness from ppm to grains per gallon, divide by 17.1. A hardness scale is provided below for your reference.

HOW TO READ THIS CHART

DEFINITIONS OF KEY TERMS

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. MCLs are established by USEPA and the State Board.

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 the use of disinfectants to control microbial contaminants.

Notification Level (NL). Notification levels are health-based advisory levels established by the State Board for chemicals in drinking water that lack MCLs. When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply.

Primary Drinking Water Standard (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 Office of Environmental Health Hazard Assessment.

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

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

Total Organic Carbon (TOC). TOC has no health effects. However, TOC provides a medium for the formation of disinfection byproducts including trihalomethanes and haloacetic acids. Drinking water containing disinfection byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems or nervous system effects and may lead to an increased risk of cancer.

Turbidity. Turbidity has no health effects. It is a measure of the clarity of the water and is monitored because it is a good indicator of water quality and the effectiveness of a filtration system. The MCL for turbidity is based on the TT. For unfiltered water, the MCL is 5.0 NTU. For filtered water, the MCL is ≤0.3 NTU 95% of the time.

UCMR. Unregulated Contaminant Monitoring Rule requires monitoring for contaminants not currently regulated. This monitoring provides a basis for future regulatory actions to protect public health.

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

ABBREVIATIONS

°C	Degrees Celsius
CU	Color unit
DDW	Division of Drinking Water
Max	Maximum
NA	Not applicable
ND	Not detected
NS	No standard
NTU	Nephelometric turbidity unit
ppb	parts per billion (micrograms per liter)
ppm	parts per million (milligrams per liter)
µS/cm	microSiemens per centimeter
% pos	% positive
RAA	Running annual average
SCVWD	Santa Clara Valley Water District
SFPUC	San Francisco Public Utilities Commission
TOC	Total organic carbon
TON	Threshold odor number
USEPA	United States Environmental Protection Agency

NOTES

- For unfiltered water, the MCL is 5.0 NTU. For filtered water, the MCL is ≤0.3 NTU 95% of the time.
- Percent of time ≤0.3 NTU.
- Levels in the distribution system.

* TYPICAL SOURCES IN DRINKING WATER

- Naturally present in the environment
- Soil runoff
- Erosion of natural deposits
- Residue from some surface water treatment processes
- Water additive that promotes strong teeth
- Discharge from fertilizer and aluminum factories
- Runoff and leaching from fertilizer use
- Leaching from septic tanks and sewage
- By-product of drinking water disinfection
- Various natural and man-made sources
- Runoff from natural deposits
- Leaching from natural deposits
- Naturally-occurring organic materials
- Seawater influence
- Industrial wastes
- Substances that form ions when in water
- Internal corrosion of household plumbing systems
- Leaching from wood preservatives
- Discharges from industrial manufacturers
- Drinking water disinfectant added for treatment
- Discharges of oil drilling wastes and from metal refineries
- Discharge from mines and chemical manufacturers

WATER SUPPLY MAP

The adjacent map indicates which areas of the City are supplied by SFPUC, SCVWD or a mixture of the two. The colored regions correspond to the colored columns in the table above. Groundwater wells, which are not shown on this map, are located throughout the City. Local groundwater is blended with surface water supplies from SFPUC and SCVWD. SFPUC water is fluoridated but SCVWD and groundwater supplies are not.

TREATMENT VIOLATION

On March 3, 2015, at approximately 4:50 p.m., due to an operational error, SFPUC Regional Water System staff accidentally operated the valves at the Sunol Valve Lot allowing untreated water from San Antonio Reservoir to enter the Regional Water System for an estimated 20 minutes. The City does not provide treatment; however, we obtain treated water from the Regional Water System. As a result, a blend of treated and untreated water may have been served to some Sunnyvale customers on March 4, 2015. Affected customers (shown within the dashed blue boundary) were notified. Inadequately treated surface water may contain disease-causing organisms that can cause diarrhea, nausea, cramps and associated headaches.

