San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

P.O. Box 7369
San Francisco, CA 94120-7369

Hetch Hetchy Tap Water. It's Delicious.

SF Water Power Sewer @sfwater

Este informe contiene información muy importante sobre su agua potable Tradúzcalo o hable con alguien que lo entienda bien. 此份水質報告, 內有重要資訊。請找他人為你翻譯和解說清楚。

Quality Matters.

Annual Water Quality Report 2012

This state-mandated annual report contains important information on the quality of your drinking water. Translate it, or speak with someone who understands it.

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San Francisco Public Utilities Commission

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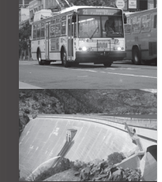
Water quality policies are decided at Commission hearings, held the second and fourth Tuesdays of each month at 1:30 pm at San Francisco City Hall, Room 400.

For more information about this report, contact Michele Liapes at **415-554-3211** or email **Mliapes@sfwater.org**.

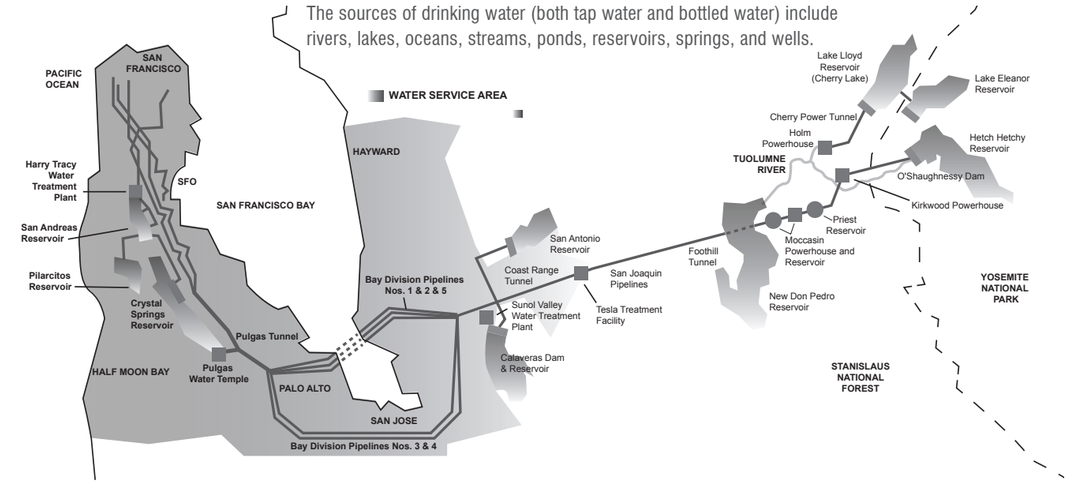
Every day, we deliver high-quality, efficient drinking water from the Hetch Hetchy Regional Water System to 2.6 million people and businesses in San Francisco, Alameda, Santa Clara, and San Mateo counties.

We generate clean, reliable electricity that powers 100% of San Francisco's vital services, including police and fire stations, streetlights, MUNI, SF General Hospital, and more.

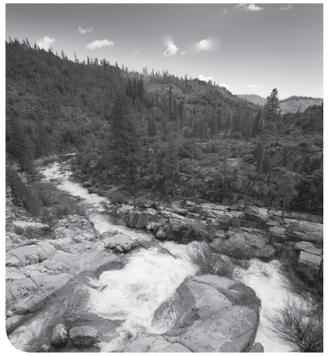


Our Drinking Water Sources and Treatment

The sources of drinking water (both tap water and bottled water) include rivers, lakes, oceans, streams, ponds, reservoirs, springs, and wells.



For our system, the major water source originates from spring snowmelt flowing down the Tuolumne River to storage in Hetch Hetchy Reservoir. Our pristine Sierra water source meets all federal and state criteria for watershed protection. We also maintain stringent disinfection treatment practices, extensive bacteriological-quality monitoring, and high operational standards. As a result, the United States Environmental Protection Agency (USEPA) and California Department of Public Health (CDPH) have granted that no filtration is required for the Hetch Hetchy water source. In other words, the source is so clean and protected that we are not required to filter water from Hetch Hetchy Reservoir.



Hetch Hetchy water is supplemented with surface water from two local watersheds. Rainfall and runoff from the Alameda Watershed—within the greater 128,424-acre Southern Alameda Creek Watershed and spanning more than 35,000 acres in Alameda and Santa Clara counties—are collected in the Calaveras and San Antonio reservoirs for filtration and disinfection at the Sunol Valley Water Treatment Plant. Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County are stored in the Crystal Springs, San Andreas, and Pilarcitos reservoirs, and are filtered and disinfected at the Harry Tracy Water Treatment Plant.

In 2012, the Hetch Hetchy Watershed provided the majority of our total water supply, with the remainder contributed by the two local watersheds.

Hetch Hetchy
Regional Water System
Services of the San Francisco Public Utilities Commission

Protecting Our Watersheds

Our annual 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). We also conduct 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. The reports are available for review at the CDPH San Francisco District office, 510-620-3474.

Water Quality

Our Water Quality Division (WQD) regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure the water delivered to you meets or exceeds federal and state drinking water standards. In 2012, WQD staff conducted more than 90,250 drinking water tests in the transmission and distribution systems. This is in addition to the extensive treatment process control monitoring performed by our certified operators and online instruments.

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. Such substances are called contaminants.

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. In order to ensure that tap water is safe to drink, the USEPA and CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Contaminants and Regulations

More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline **800-426-4791**.

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, which 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, which can be naturally occurring or be the result of oil and gas production, and mining activities.

Emerging Contaminant Monitoring

Unregulated microorganisms and synthetic or naturally-occurring chemicals that are not commonly monitored by water utilities are termed contaminants of emerging concern (CEC). More than 100,000 chemicals are registered in the US, and new chemicals are registered and new microorganisms are identified everyday. Some of these contaminants can be detected at extremely low levels in the environment by ever-improving laboratory methods. The health significance of these trace contaminants is typically unknown. We are proactively addressing CEC through participation in national research projects and conducting independent monitoring of our source waters. To learn more, visit **sfwater.org/CEC**.

Reducing Lead from Plumbing Fixtures

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. There are no known lead service lines in our water distribution system. We are responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. Lead levels at your home may be higher than at other homes as a result of materials used in your home's plumbing.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and young children are typically more vulnerable to lead in drinking water than the general population. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead levels in your home's water, you may wish to have your water tested. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the USEPA's Safe Drinking Water Hotline **800-426-4791**, or at **www.epa.gov/safewater/lead**.

In addition to efforts to protect water sources from lead contamination, we are taking actions to minimize customer exposure to lead in water by:

- Offering, in parthership with the San Francisco Department of Public Health, free lead test vouchers for clients enrolled in the Women, Infants and Children (WIC) program.
- Offering low-cost water tests for lead ($25 per tap). To request a test, call 877-737-8297.

Special Health Needs

The following is standard language required by the USEPA for inclusion in all US water agency annual water quality reports.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline **800-426-4791** or at **www.epa.gov/safewater**.

Key Water Quality Terms

Following are definitions of key terms referring to standards and goals of water quality noted on the adjacent data table.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

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

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

Regulatory Action Level: 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.

Turbidity: A water clarity indicator that measures cloudiness of the water, and is also used to indicate the effectiveness of the filtration system. High turbidity can hinder the effectiveness of disinfectants.

Cryptosporidium is a parasitic microbe found in most surface water. We regularly test for this waterborne pathogen, and found it at very low levels in source water and treated water in 2012. However, current test methods approved by the USEPA do not distinguish between dead organisms and those capable of causing disease. Ingestion of *Cryptosporidium* may produce symptoms of nausea, abdominal cramps, diarrhea, and associated headaches. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Treasure Island / Yerba Buena Island – Water Quality Data for Year 2012

The table below lists all 2012 detected drinking water contaminants and the information about their typical sources. Contaminants below detection limits for reporting are not shown, in accord with regulatory guidance. We received from the CDPH a monitoring waiver for some contaminants such that their monitoring frequencies are less than annual.

DETECTED CONTAMINANTS	UNIT	MCL	PHG OR (MCLG)	RANGE OR LEVEL FOUND	AVERAGE OR [MAX]	MAJOR SOURCES IN DRINKING WATER
TURBIDITY						
Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.2 - 0.5 (1)	[2.8] (2)	Soil runoff
Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	NTU -	1 (3) min 95% of samples ≤0.3 NTU (3)	N/A N/A	- 100%	[0.26] -	Soil runoff Soil runoff
Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	NTU -	1 (3) min 95% of samples ≤0.3 NTU (3)	N/A N/A	- 100%	[0.17] -	Soil runoff Soil runoff
DISINFECTION BYPRODUCTS AND PRECURSOR						
Total Trihalomethanes	ppb	80	N/A	24 - 48	[35] (4)	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	18 - 41	[30] (4)	Byproduct of drinking water disinfection
Total Organic Carbon (5)	ppm	TT	N/A	2.3 - 3.7	2.7	Various natural and man-made sources
MICROBIOLOGICAL						
Total Coliform	-	NoP ≤5.0% of monthly samples	(0)	-	[2.3%]	Naturally present in the environment
Giardia lamblia	cyst/L	TT	(0)	<0.01 - 0.06	<0.01	Naturally present in the environment
INORGANICS						
Fluoride (source water) (6)	ppm	2.0	1	ND - 0.8	0.3 (7)	Erosion of natural deposits; water additive to promote strong teeth
Chloramine (as chlorine)	ppm	MRDL = 4.0	MRDLG = 4	<0.05 - 2.8	[2.0] (8)	Drinking water disinfectant added for treatment

CONSTITUENTS WITH SECONDARY STANDARDS	UNIT	SMCL	PHG	RANGE	AVERAGE	TYPICAL SOURCES OF CONTAMINANT
Aluminum (9)	ppb	200	600	ND - 90	ND	Erosion of natural deposits; some water treatment residue
Chloride	ppm	500	N/A	2 - 20	12.3	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 7	<5	Naturally occurring organic materials
Specific Conductance	µS/cm	1600	N/A	31 - 344	202	Substances that form ions when in water
Sulfate	ppm	500	N/A	0.9 - 40	20	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	<20 - 195	108	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.1 - 0.2	0.1	Soil runoff

LEAD AND COPPER (10)	UNIT	AL	PHG	RANGE	90TH PERCENTILE	MAJOR SOURCES IN DRINKING WATER
Copper	ppb	1300	300	<1 - 554	138	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	<1 - 49.4	15	Internal corrosion of household water plumbing systems

OTHER WATER QUALITY PARAMETERS	UNIT	ORL	RANGE	AVERAGE
Alkalinity (as $CaCO_3$)	ppm	N/A	10 - 111	61
Bromide	ppb	N/A	<10 - 24	<10
Calcium (as Ca)	ppm	N/A	3 - 28	15
Chlorate (11)	ppb	(800) NL	53 - 399	221
Hardness (as $CaCO_3$)	ppm	N/A	8 - 114	62
Magnesium	ppm	N/A	0.2 - 10.8	6.1
pH	-	N/A	6.7 - 9.7	8.5
Silica	ppm	N/A	3.2 - 5.3	4.1
Sodium	ppm	N/A	3 - 25	15.7

KEY:

< / ≤ = less than / less than or equal to
AL = Action Level
Max = Maximum
Min = Minimum
N/A = Not Available
ND = Non-Detect
NL = Notification Level
NoP = Number of Coliform-Positive Sample
NTU = Nephelometric Turbidity Unit
ORL = Other Regulatory Level
ppb = part per billion
ppm = part per million
µS/cm = microSiemens / centimeter

FOOTNOTES: (1) Turbidity is measured every four hours. These are monthly average turbidity values. **(2)** The highest turbidity of the unfiltered water in 2012 was 2.9 NTU but the water was not served to customers. The brief turbidity spike indicated in the table was not observed upstream in San Joaquin Pipelines. **(3)** There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems in the State drinking water regulations. **(4)** This is the highest locational running annual average value. **(5)** Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only. **(6)** We add fluoride to an optimum level of 1.0 ppm to help prevent dental caries in consumers. The CDPH specifies the fluoride levels in the treated water to be maintained within a range of 0.8 ppm - 1.5 ppm. In 2012, the range and average of the fluoride levels were 0.4 ppm - 1.3 ppm and 1.0 ppm, respectively. **(7)** The fluoride levels in the Hetch Hetchy and SVWTP raw water were ND and 0.2 ppm, respectively. The HTWTP raw water had elevated fluoride levels of 0.6 ppm - 0.8 ppm attributed to the transfer of fluoridated Hetch Hetchy & SVWTP treated water into the Lower Crystal Springs Reservoir, which supplies water via the San Andreas Reservoir to the HTWTP for treatment. **(8)** This is the highest quarterly running annual average value. **(9)** Aluminum also has a primary MCL of 1000 ppb. **(10)** The most recent Lead and Copper Rule monitoring was in August 2012. Three of the 21 site samples collected at consumer taps had lead concentrations above the AL. **(11)** The detected chlorate in the treated water is a degradation byproduct of sodium hypochlorite, the primary disinfectant we use for water disinfection. **Note:** The different water sources blended at different ratios throughout the year have resulted in varying water quality. Additional water quality data may be obtained by calling our Water Quality Division toll-free number at **(877) 737-8297.**