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

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

Hetch Hetchy Tap Water—too good to waste.

SF Water Power Sewer @sfwater

#SaveWaterSF

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。

California is in its fourth year of drought. Reduce water use by 10%. Information: sfwater.org/drought.

Quality Matters.

Annual Water Quality Report 2014

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

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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 in San Francisco City Hall, Room 400.

For more information about this report, contact Michele Liapes at **415-554-3211** or email **Mliapes@sfwater.org**. Call 650-872-5900 to report a water problem.

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

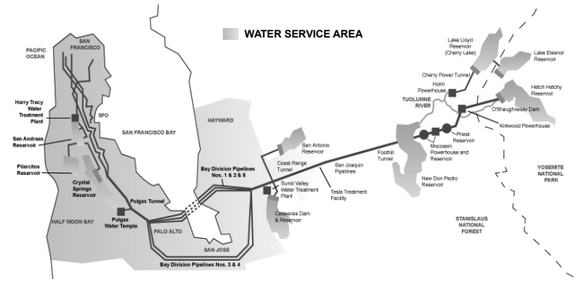
We generate clean, reliable hydroelectricity that powers 100% of San Francisco's vital services, including police and fire stations, street lights, MUNI, SF General Hospital, and more.

Our Drinking Water Sources and Treatment

For our system, the major water source originates from spring snowmelt flowing down the Tuolumne River to storage in Hetch Hetchy Reservoir. Our pristine, well protected Sierra water source is exempt from filtration requirements by the United States Environmental Protection Agency (USEPA) and State Water Resources Control Board's Division of Drinking Water (SWRCB). Water treatment, including disinfection by ultraviolet light and chlorine, corrosion control by adjustment of the water pH value, fluoridation for dental health protection, and chloramination for maintaining disinfectant residual and minimizing disinfection byproduct formation, is in place to meet the drinking water regulatory requirements.

Hetch Hetchy water is supplemented with surface water from two local watersheds. Rainfall and runoff from the 35,000-acre Alameda Watershed 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.

As in the past, the Hetch Hetchy Watershed provided the majority of our total water supply, with the remainder contributed by the two local watersheds in 2014.



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 including the National Park Service and US Forest Service.

We also conduct sanitary surveys every five years to detect and track sanitary concerns for the local 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 San Francisco District office of SWRCB 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 2014, WQD staff conducted more than 52,000 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.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, oceans, 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. 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 SWRCB prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

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Special Health Needs

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 (CDC) 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**.

Fluoridation and Dental Fluorosis

Mandated by State law, water fluoridation is a widely accepted practice proven to be safe and effective for preventing and controlling tooth decay. Our water was fluoridated at 0.9 milligram per liter until May 2015, when new State regulatory guidance was issued. The water is now fluoridated at a new optimal level of 0.7 mg/L. Infants fed formula mixed with water containing fluoride at this level may have an increased chance of developing tiny white lines or streaks in their teeth. These marks are referred to as mild to very mild fluorosis, and are often only visible under a microscope. Even in cases where the marks are visible, they do not pose any health risk. CDC considers it safe to use optimally fluoridated water for preparing infant formula. To lessen this chance of dental fluorosis, you may choose to use low-fluoride bottled water to prepare infant formula. Nevertheless, children may still develop dental fluorosis due to fluoride intake from other sources such as food, toothpaste and dental products. Contact your health provider or SWRCB if you have concerns about dental fluorosis. For additional information visit the SWRCB website **www.swrcb.ca.gov** and search for fluoride, or the CDC website **www.cdc.gov/fluoridation**.

Contaminants and Regulations

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.

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

Treatment Plant Improvements

The Harry Tracy Water Treatment Plant Long-Term Improvements Project is now complete. The $280 million project includes significant upgrades to the ozonation system (an effective oxygen-based method for destroying bacteria, viruses and odors), construction of five new filters and a new 11-million-gallon treated water reservoir. The overall improvements in performance will increase the plant's capacity and reliability for treating drinking water for San Francisco and San Mateo County. It also ensures that the plant can reliably produce 140 MGD of water within 24 hours of a major earthquake.

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. It is possible that lead levels at your home may be higher than at others because of plumbing materials used in your property.

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 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**.

SFPUC's Regional Groundwater Project Will Kick Off Construction in 2015

The Regional Groundwater Storage and Recovery (GSR) Project is a partnership with the cities of Daly City and San Bruno and the California Water Service Company that can provide 7.2 million gallons of water per day to protect against future droughts and earthquakes. Construction is scheduled to begin in 2015 and be completed in 2018. The GSR project balances the use of both groundwater and surface water in the South Westside Groundwater Basin (northern San Mateo County). During years of normal or heavy rainfall, the project will provide additional surface water to the partner agencies in order to reduce the amount of their groundwater pumping. Over time, the reduced pumping will create a groundwater savings account of up to 60,500 acre-feet of water or 20 billion gallons — a volume equivalent to that of the SFPUC's Crystal Springs Reservoir. In dry years, when less surface water is available, the stored water would be pumped from the new groundwater wells and benefit the 2.6 million people in the Bay Area who rely on our water system.

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 2014. 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.

San Francisco Regional Water System - Water Quality Data for Year 2014

The table below lists all 2014 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 hold a SWRCB monitoring waiver for some contaminants where 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 - 0.6 (1)	[2.8]	Soil runoff
Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	NTU	1 (2)	N/A	-	[0.98]	Soil runoff
	-	min 95% of samples ≤0.3 NTU (2)	N/A	97% - 100%	-	Soil runoff
Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	NTU	1 (2)	N/A	-	[0.07]	Soil runoff
	-	min 95% of samples ≤0.3 NTU (2)	N/A	100%	-	Soil runoff
DISINFECTION BYPRODUCTS AND PRECURSOR						
Total Trihalomethanes	ppb	80	N/A	15 - 51	[51] (3)	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	3 - 34	[32] (3)	Byproduct of drinking water disinfection
Total Organic Carbon (4)	ppm	TT	N/A	1.3 - 2.8	1.9	Various natural and man-made sources
MICROBIOLOGICAL						
Total Coliform	-	NoP ≤5.0% of monthly samples	(0)	-	[3%]	Naturally present in the environment
Giardia lamblia	cyst/L	TT	(0)	<0.01 - 0.04	<0.01	Naturally present in the environment
INORGANICS						
Fluoride (source water) (5)	ppm	2.0	1	ND - 0.8	0.4 (6)	Erosion of natural deposits; water additive to promote strong teeth
Chlorine (including free chlorine and chloramine)	ppm	MRDL = 4.0	MRDLG = 4	0.7 - 3.2	[2.4] (7)	Drinking water disinfectant added for treatment
CONSTITUENTS WITH SECONDARY STANDARDS	**UNIT**	**SMCL**	**PHG**	**RANGE**	**AVERAGE**	**MAJOR SOURCES OF CONTAMINANT**
Chloride	ppm	500	N/A	<3 - 15	9	Runoff / leaching from natural deposits
Odor Threshold	TON	3	N/A	ND - 1	ND	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	N/A	32 - 222	151	Substances that form ions when in water
Sulfate	ppm	500	N/A	0.9 - 32	17	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	31 - 120	81	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.1 - 0.2	0.1	Soil runoff
LEAD AND COPPER (8)	**UNIT**	**AL**	**PHG**	**RANGE**	**90TH PERCENTILE**	**MAJOR SOURCES IN DRINKING WATER**
Copper	ppb	1300	300	1 - 251	45	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	<1 - 2.4	2.3	Internal corrosion of household water plumbing systems

OTHER WATER QUALITY PARAMETERS	UNIT	ORL	RANGE	AVERAGE
Alkalinity (as $CaCO_3$)	ppm	N/A	8 - 94	37
Bromide	ppb	N/A	ND - 27	5
Calcium (as Ca)	ppm	N/A	3 - 20	11
Chlorate (9)	ppb	800 (NL)	34 - 740	314
Hardness (as $CaCO_3$)	ppm	N/A	7 - 77	46
Magnesium	ppm	N/A	<0.2 - 6.4	3.9
pH	-	N/A	6.9 - 10.2	9.3
Potassium	ppm	N/A	0.2 - 1	0.6
Silica	ppm	N/A	2 - 5	4
Sodium	ppm	N/A	2.4 - 16	10

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
TON = Threshold Odor Number
µS/cm = microSiemens / centimeter

FOOTNOTES:

(1) These are monthly average turbidity values measured every 4 hours daily.
(2) There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems.
(3) This is the highest locational running annual average value.
(4) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only.
(5) The SWRCB specifies the fluoride level in the treated water be maintained within a range of 0.8 ppm - 1.5 ppm. In 2014, the range and average of the fluoride levels were 0.6 ppm - 1.2 ppm and 0.9 ppm, respectively.
(6) The natural fluoride level in the Hetch Hetchy supply was ND. Elevated fluoride levels in the SVWTP and HTWTP raw water are attributed to the transfer of fluoridated Hetch Hetchy water into the reservoirs.
(7) This is the highest running annual average value.
(8) The most recent Lead and Copper Rule monitoring was in August 2012. None of the 24 site samples collected at consumer taps had lead or copper concentration above the corresponding ALs.
(9) The detected chlorate in the treated water is a degradation product of sodium hypochlorite, which 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.**