

2013 WATER QUALITY REPORT

City of Foster City/ Estero Municipal Improvement District



Dear EMID Customer,

The City of Foster City/Estero Municipal Improvement District (EMID) is pleased to provide you with the Annual Water Quality Report for 2013. On the following pages, you will find important information about the origin of your water, the quality of your water, and the steps taken to protect the water supply.

As the purveyor of your drinking water, we are proud to be able to state that the water we provide is of the highest quality, meeting or exceeding all primary drinking water standards set by the U.S. Environmental Agency (USEPA) and the California Department of Public Health (CDPH).

EMID purchases all of its water from the San Francisco Public Utilities Commission (SFPUC). The following pages contain the source water information prepared by the SFPUC Water Quality Bureau. In addition to the monitoring and testing performed by SFPUC, EMID does its own monitoring and testing to ensure that the water quality in the distribution system meets or exceeds all drinking water standards. If there are any questions about the water, please call the SFPUC Water Quality Bureau at (877)737-8297 or visit the website at www.sfwater.org. Any other questions about the water system should be directed to EMID Public Works Manager, Norman Dorais at (650) 286-8140.

WATER QUALITY



Hetch Hetchy Dam

WATER QUALITY: CONTAMINANTS AND REGULATIONS

Quality Matters: Your dollars support the staff and laboratories that test your water every day. The SFPUC 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 2013, WQD staff conducted more than 102,650 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. In addition to monitoring done by SFPUC, EMID staff conduct water quality monitoring and testing throughout EMID's service area to assure compliance with the California Dept. of Public Health (CDPH) standards as required by its distribution permit.

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.



Water Quality Sampling

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.

UNREGULATED CONTAMINANT MONITORING RULE (UCMR3)

In May 2012, USEPA published the third Unregulated Contaminant Monitoring Rule (UCMR3) that lists a total of 28 chemical contaminants and two viruses for monitoring by some public water systems between 2013 and 2015. USEPA uses the UCMR to collect data for contaminants suspected to be present in drinking water to help determine if drinking water standards need to be developed in the future. SFPUC is required to monitor the 28 chemical contaminants, and completed four quarters of UCMR3 monitoring in 2013. Only 5 of the 28 contaminants were detected at very low levels as reported in the following table. In the absence of identifiable industrial sources other than chlorate, these contaminants are naturally occurring in our watersheds. Chlorate is a degradation product of the disinfectant used by SFPUC for water disinfection, and is a common contaminant found in water treatment facilities throughout the nation.

UCMR3 Sampling Results						
DETECTED CONTAMINANTS	Unit	MCL ¹	PHG or (MCLG)	Range	Average	Typical Sources in Drinking Water
Chlorate	ppb	800 (NL)	NA	30 - 270	150	Degradation of disinfectant
Chromium-total ²	ppb	50	-100	<0.2 - 0.35	<0.2	Erosion of natural deposits; industrial discharges
Chromium-6 ³	ppb	10	0.02	<0.03 - 0.15	0.09	Erosion of natural deposits; industrial discharges
Strontium	ppb	NA	NA	15 - 170	74	Erosion of natural and pipe deposits
Vanadium	ppb	50 (NL)	NA	<0.2 - 0.48	<0.2	Erosion of natural and pipe deposits

¹For definitions of these water quality terms see the listing on the back of this publication.

²This MCL was established by CDPH. USEPA has a MCL of 100 ppb.

³CDPH has proposed a MCL of 10 ppb for chromium-6.

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 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.

WATER QUALITY



Hetch Hetchy Reservoir

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.

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 is optimally fluoridated at 1.0 mg/l. Infants fed formula mixed with water containing fluoride at the optimal 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 CDPH if you have concerns about dental fluorosis. Additional information can be found at CDPH website www.cdph.ca.gov/certlic/drinkingwater/pages/fluoridation.aspx or CDC website www.cdc.gov/fluoridation.

TREATMENT PLANT IMPROVEMENTS

In 2013, SFPUC completed a \$62.6 million Phase II improvement project for the Sunol Valley Water Treatment Plant. The upgrades increase the plant's reliability at the permitted capacity of 160 MGD and will allow it to maintain production in the event of emergency or prolonged maintenance activities. Major enhancements include the addition of a new 3 MG chlorine contact tank, a 17.5 MG treated water reservoir, and improvements to the filtration, chemical treatment and disinfection facilities.

The Harry Tracy Water Treatment Plant Long-Term Improvements Project is currently under construction to improve delivery reliability and provide seismic upgrades. Construction started in March 2011 and has reached 70% completion. This \$280 million project, which includes significant upgrades to the ozonation system, five new filters, and a new treated water reservoir, will ensure that the plant can produce 140 MGD of water within 24 hours of a major earthquake.

2013 WATER QUALITY DATA

The table on the following page lists all 2013 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.



Water Storage Reservoirs

City of Foster City EMID/EMID- Water Quality Data for Year 2013 ⁽¹⁾

	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 - 0.3 ⁽²⁾	[3.6] ⁽³⁾	Soil runoff
Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	-	1 ⁽⁴⁾ Min 95% of samples ≤ 0.3 NTU ⁽⁴⁾	N/A	-	[0.98]	Soil runoff
Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	-	1 ⁽⁴⁾ Min 95% of samples ≤ 0.3 NTU ⁽⁴⁾	N/A	99.9%	-	Soil runoff
	NTU		N/A	-	[0.13]	Soil runoff
	-		N/A	100%	-	Soil runoff
DISINFECTION BYPRODUCTS AND PRECURSOR						
Total Trihalomethanes	ppb	80	N/A	13.7 - 56.4	47.8 ⁽⁵⁾	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	5.4 - 40.8	34.8 ⁽⁵⁾	Byproduct of drinking water disinfection
Total Organic Carbon ⁽⁶⁾	ppm	TT	N/A	1 - 3.4	2.2	Various natural and man-made sources
MICROBIOLOGICAL						
Total Coliform	-	NoP ≤ 5.0% of monthly samples	(0)	-	0%	Naturally present in the environment
<i>Giardia lamblia</i>	cyst/L	TT	(0)	<0.01 - 0.04	<0.01	Naturally present in the environment
INORGANICS						
Fluoride (source water) ⁽⁷⁾	ppm	2.0	1	ND - 0.8	0.4 ⁽⁸⁾	Erosion of natural deposits; water additive to promote strong teeth.
Chloramine (as chlorine)	ppm	MRDL = 4.0	MRDLG = 4	0.82 - 2.74	2.05 ⁽⁹⁾	Drinking water disinfectant added for treatment
RADIONUCLIDES						
Gross Alpha Particle Activity	pCi/L	15	(0)	ND - 3.9	ND	Erosion of natural deposits
CONSTITUENTS WITH SECONDARY STANDARDS						
	Unit	SMCL	PHG	Range	Average	Major Sources of Contaminant
Aluminum ⁽¹⁰⁾	ppb	200	600	ND - 52	ND	Erosion of natural deposits; some water treatment residue
Chloride	ppm	500	N/A	<3 - 18	10.2	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 6	<5	Naturally occurring organic materials
Specific Conductance	µS/cm	1600	N/A	29 - 258	169	Substances that form ions when in water
Sulfate	ppm	500	N/A	0.8 - 33	16.6	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	<20 - 109	71	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.1 - 0.3	0.1	Soil runoff
LEAD AND COPPER						
	Unit	AL	PHG	Range	90th Percentile	Major Sources in Drinking Water
Copper	ppb	1300	300	7.4 - 50.2 ⁽¹¹⁾	43.05	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	<1.0 - 13.5 ⁽¹²⁾	7.03	Internal corrosion of household water plumbing systems
OTHER WATER QUALITY PARAMETERS						
	Unit	ORL	Range	Average		
Alkalinity (as CaCO ₃)	ppm	N/A	7 - 71	46		
Bromide	ppb	N/A	17 - 24	21		
Calcium (as Ca)	ppm	N/A	3 - 23	13		
Chlorate ⁽¹³⁾	ppb	800 (NL)	39 - 690	303		
Hardness (as CaCO ₃)	ppm	N/A	7 - 89	53		
Magnesium	ppm	N/A	<0.2 - 8.3	5.3		
pH	-	N/A	6.5 - 9.4	8.4		
Silica	ppm	N/A	4.8 - 5.2	5		
Sodium	ppm	N/A	3 - 18	12		

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
- pCi/L = picocurie per liter
- ppb = part per billion
- ppm = part per million
- µS/cm = microSiemens/centimeter

Footnotes:

- (1) All results met State and Federal drinking water health standards.
- (2) Turbidity is measured every four hours. These are monthly average turbidity values.
- (3) The highest turbidity of the unfiltered water in 2013 was 3.6 NTU.
- (4) There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems.
- (5) This is the highest locational running annual average value.
- (6) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only.
- (7) The SFPUC adds fluoride to an optimum level of 0.9 ppm to help prevent dental caries in consumers. The CDPH specifies the fluoride levels in the treated water be maintained within a range of 0.8 ppm - 1.5 ppm.
- (8) 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.
- (9) This is the highest running annual average value.
- (10) Aluminum also has a primary MCL of 1000 ppb.
- (11) The most recent Lead and Copper Rule monitoring was in 2013. 0 of 34 site samples collected at consumer taps had copper concentrations above the AL.
- (12) The most recent Lead and Copper Rule monitoring was in 2013. 0 of 34 site samples collected at consumer taps had lead concentrations above the AL.
- (13) The detected chlorate in the treated water is a degradation product of sodium hypochlorite used by the SFPUC for water disinfection.

Note: Additional water quality data may be obtained by calling the City of Foster City/EMID Public Works Department at (650) 286-8140.

SFPUC DRINKING WATER SOURCES

CONSERVATION ALERT: Following one of the driest winters in California history, we have requested all customers to voluntarily reduce water use by 10%. See sfwater.org/conservation for tips on how to cut back water use, ranging from simple shifts in routine habits to replacement of inefficient appliances and toilets.

The Hetch Hetchy Water System serves 2.6 million people, supplies 265 million gallons per day (MGD), travels 167 miles across the State, and delivers by gravity.

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. The pristine, well protected Sierra water source is approved by the United States Environmental Protection Agency (USEPA) and California Department of Public Health (CDPH) so that no filtration is required. Water treatments including disinfections by ultraviolet light and chlorine, pH adjustment for corrosion control, fluoridation for dental health protection, and chloramination for maintaining disinfectant residual and minimizing disinfection byproduct formation are in place to meet the drinking water regulation requirements.

Hetch Hetchy water is supplemented with surface water from two local watersheds. Rainfall and run off from the 35,000-acre Alameda Watershed spanning in Alameda and Santa Clara

counties—are collected in the Calaveras Reservoirs and San Antonio Reservoir 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 Reservoir, San Andreas Reservoir, and Pilarcitos Reservoir, and are filtered and disinfected at the Harry Tracy Water Treatment Plant.

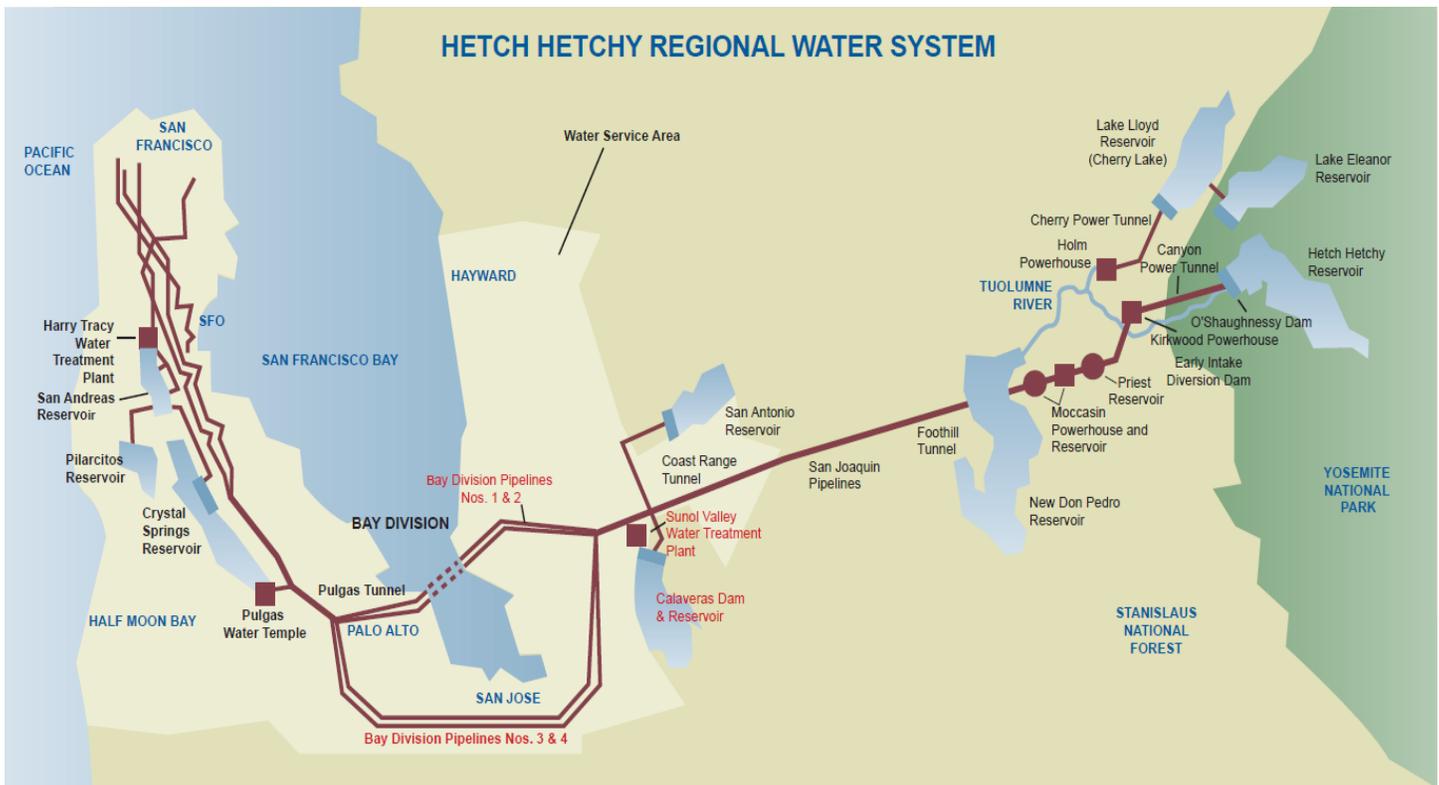
As in the past, the Hetch Hetchy Watershed provided the majority of our total water supply, with the remainder contributed by the two local watersheds in 2013.

WATERSHED PROTECTION

An 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 National Park Service and US Forest Service.

The SFPUC also conducts 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 CDPH San Francisco District office, (510) 620-3474.

SFPUC WATER SYSTEM



KEY WATER QUALITY TERMS

The following are definitions of key terms noted on the adjacent water quality data table:

Cryptosporidium is a parasitic microbe found in most surface water. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2013. 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.

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.

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.

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 is also used to indicate the effectiveness of the filtration plants. High turbidity can hinder the effectiveness of disinfectants.

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.

In addition to our water source protection efforts, we continue the following programs to minimize customer exposure to lead in water:

- ◆ Working toward completion of a comprehensive program to replace brass meters with lead-free automated water meters
- ◆ Offering, in partnership 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

PUBLIC PARTICIPATION

The EMID President and Board of Directors are the governing authority of the EMID water system. They meet of the first and third Mondays of the month at 6:30 p.m. at the Foster City Council/ Board Chambers located at 610 Foster City Blvd. Foster City, California. An agenda for each EMID meeting is posted on the City of Foster City web site at www.fostercity.org/city_hall.

The SFPUC meets on the second and fourth Tuesdays of the month at 1:30 p.m. at the San Francisco City Hall, Room 400. The public is invited to participate in these meetings.

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

Veá nuestro 2013 Informe Anual de Calidad del Agua en sfwater.org/qualitymatters

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