

# 2015



MID-PENINSULA  
WATER DISTRICT

## *CONSUMER CONFIDENCE REPORT*

# *The Future Is Now*

*BRINGING QUALITY WATER TO  
YOUR DOOR SINCE 1929!*



**ABOUT MPWD**

**MID-PENINSULA  
WATER DISTRICT**

3 Dairy Lane  
Belmont, CA 94002  
650-591-8941

www.MidPeninsulaWater.org

**BOARD OF DIRECTORS**

The Board of Directors meets every fourth Thursday of the month at 6:30 p.m. at 3 Dairy Lane, Belmont.

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Dave Warden  
*Vice President*

Al Stuebing  
*Director*

Louis J. Vella  
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# Dedicated and Determined

In 2015, Mid-Peninsula Water District (MPWD) customers responded by surpassing the 25% statewide conservation goal set by the State Water Resources Control Board (SWRCB). Not only does this help manage our resources today, but helps assure we will have these vital resources tomorrow.

MPWD customers continue to do their part for the future, and so does the MPWD. With the goal of assuring its customers safe, high quality, reliable water for decades to come, the MPWD has been considering a multi-year multi-million dollar capital improvement program. \$50 million has been identified in overdue system infrastructure replacement projects. Many are underground water mains that have exceeded their useful lives. We invite you to take an interest in these challenges and discussions at the MPWD's regular monthly Board meetings on the 4th Thursday at 6:30 pm at 3 Dairy Lane in Belmont.

The MPWD adopted its Water Efficient Landscape Ordinance and is currently updating its Urban Water Management Plan to further enhance our water resource management capabilities.

For more than 85 years, Mid-Peninsula Water District has been dedicated and determined to provide its customers water that is among the purest in the world. We look forward to continuing this service to our customers for generations to come. ■



## WATER QUALITY

The SFPUC's 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 2015, WQD staff conducted more than 47,500 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.

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.

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.

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。

## Treatment Technique Violation

### FAILURE TO MEET FILTRATION REQUIREMENT

MPWD serves treated water from the San Francisco Public Utilities Commission (SFPUC) to serve its customers. Due to an operational error in the San Francisco Regional Water System (SFRWS), the SFPUC failed to filter water from the San Antonio Reservoir on March 3, 2015. The SFPUC promptly notified the SWRCB and advised the wholesale customers about the incident. Through immediate coordination with wholesale customers, the SFPUC minimized the affected areas and purged the inadequately treated water from the system.

A valve was accidentally opened which led to untreated water from the San Antonio Reservoir entering into the transmission system for approximately 20 minutes. This untreated water mixed with fully treated water from the Hetch Hetchy Aqueduct and traveled through the Regional System for approximately 36 hours before it was discharged into Crystal Springs Reservoir. Inadequately treated surface water may contain disease-causing organisms. These organisms can cause diarrhea, nausea, cramps, and associated headaches.

As a result of this event, extensive field chlorine sampling and special bacteriological samples were taken, analyzed, and reported to DDW. All tests were negative for the presence of bacteria and indicated that the water quality returned to normal immediately after the water passed through the system. Additionally, all routine coliform monitoring were absent for total coliform and E. coli during the month of March 2015.

Customers in the South Bay and Peninsula, like those in the MPWD, that received the blend of treated and untreated water were notified of the incident. DDW issued MPWD and other water providers that served the untreated water a violation of the Surface Water Treatment Rule's multi-barrier treatment, as filtration and disinfection were not provided to a portion of the surface water. The SFPUC has been working with the SWRCB in developing measures to prevent a recurrence of such an incident in the future.

The incident was isolated to one pressure zone within the MPWD system resulting in notification to approximately 1,000 customers that might have been impacted. MPWD notified the affected customers of this incident pursuant to DDW guidelines on March 25, 2015. ■

## Contaminants and Regulations

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, and may be present in source water as:

- **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**. ■

### Protecting Our Watersheds

The SFPUC conducts watershed a sanitary survey for Hetch Hetchy source annually and local water sources every five years.

The reports for these surveys are available for review at the San Francisco District office of SWRCB (contact phone number: 510-620-3474).





## 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. The SFPUC's fluoride target level in the water is 0.7 milligram per liter, consistent with the May 2015 State regulatory guidance on the new optimal fluoride level. Infants fed formula mixed with water containing fluoride at this level may still have a 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 about fluoridation or oral health, visit the [SWRCB website www.waterboards.ca.gov](http://www.waterboards.ca.gov) and search for fluoride, or visit the [CDC website www.cdc.gov/fluoridation](http://www.cdc.gov/fluoridation).

## 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](http://www.epa.gov/safewater) or at [www.epa.gov/safewater](http://www.epa.gov/safewater).



## Bay Tunnel and New Irvington Tunnel Projects

These new SFPUC's facilities were brought into service in 2015 and have strengthened the seismic reliability of the SFRWS by providing crucial system redundancies. They are part of the SFPUC's Water System Improvement Program, a 4.8 billion dollar investment in capital projects that strengthen SFPUC's ability to provide reliable, high-quality water to 2.6 million customers, even after a natural disaster.

### 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 the SFRWS. 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](http://www.epa.gov/safewater/lead), or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

# KEY WATER QUALITY TERMS

Following are definitions of key terms referring to water quality standards and goals 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. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2015. 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.

## 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.



# Wholesale Agency's Water Quality Data for Year 2015

The table below lists all 2015 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. The SFPUC holds a SWRCB monitoring waiver for some contaminants and therefore their monitoring frequencies are less than annual.

## DETECTED CONTAMINANTS<sup>1</sup>

TURBIDITY	Unit	MCL	PHG or (MCLG)	Range or Level Found	Average or [Max]	Major Sources in Drinking Water
Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.2 - 0.5 <sup>(2)</sup>	[3.1]	Soil runoff
Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	NTU	1 <sup>(3)</sup>	N/A	-	[1]	Soil runoff
Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	NTU	1 <sup>(3)</sup>	N/A	-	[0.14]	Soil runoff
	-	Min 95% of samples ≤ 0.3 NTU <sup>(3)</sup>	N/A	97-100%	-	Soil runoff
	-	Min 95% of samples ≤ 0.3 NTU <sup>(3)</sup>	N/A	100%	-	Soil runoff
<b>DISINFECTION BYPRODUCTS AND PRECURSOR</b>						
Total Trihalomethanes	ppb	80	N/A	23.1 - 63.2	41.7	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	30.1 - 49.8	36.0 <sup>(4)</sup>	Byproduct of drinking water disinfection
Total Organic Carbon <sup>(5)</sup>	ppm	TT	N/A	1.4 - 5.2	2.1	Various natural and man-made sources
<b>MICROBIOLOGICAL</b>						
Total Coliform <sup>(6)</sup>	-	NoP ≤ 5.0% of monthly samples	(0)	1	2.13%	Naturally present in the environment
<i>Giardia lamblia</i>	cyst/L	TT	(0)	0 - 0.08	0.01	Naturally present in the environment
<b>INORGANICS</b>						
Fluoride (source water) <sup>(7)</sup>	ppm	2.0	1	ND - 0.8	0.3 <sup>(8)</sup>	Erosion of natural deposits; water additive to promote strong teeth
Chloramine (as chlorine)	ppm	MRDL = 4.0	MRDLG = 4	0.66 - 3.3	2.3 <sup>(9)</sup>	Drinking water disinfectant added for treatment

### 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

## DETECTED CONTAMINANTS<sup>1</sup>

CONSTITUENTS WITH SECONDARY STANDARDS	Unit	SMCL	PHG	Range	Average	Typical Sources of Contaminant
Chloride	ppm	500	N/A	<3 - 16	8.4	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 5	<5	Naturally occurring organic materials
Specific Conductance	µS/cm	1600	N/A	34 - 213	144	Substances that form ions when in water
Sulfate	ppm	500	N/A	1.2 - 30	15	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	<20 - 93	54	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	Typical Sources in Drinking Water
Copper	ppb	1300	300	<1.7 - 40 <sup>(10)</sup>	32.3	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	<1.0 - 2.9 <sup>(11)</sup>	1.5	Internal corrosion of household water plumbing systems
OTHER WATER QUALITY PARAMETERS	Unit	ORL	Range	Average		
Alkalinity (as CaCO <sub>3</sub> )	ppm	N/A	7 - 128	30		
Boron	ppb	1000 (NL)	103	103		
Bromide <sup>(12)</sup>	ppb	N/A	15 - 24	20		
Calcium (as Ca)	ppm	N/A	3 - 18	11		
Chlorate <sup>(13)</sup>	ppb	(800) NL	39 - 280	157		
Hardness (as CaCO <sub>3</sub> )	ppm	N/A	13 - 65	42		
Magnesium	ppm	N/A	0.2 - 5.6	3.7		
pH	-	N/A	7.1 - 9.9	9.0		
Potassium	ppm	N/A	0.2 - 0.9	0.6		
Silica	ppm	N/A	3.7 - 5.4	4.7		
Sodium	ppm	N/A	2.9 - 19	13		



### FOOTNOTES

- (1) All results met Federal and State drinking water standards and were confirmed by the MPWD.
- (2) These are monthly average turbidity values measured every 4 hours daily.
- (3) There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems.
- (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) The Mid-Peninsula Water District had one positive for Total Coliform in 2015, follow up samples taken within 24 hours after the positive were zero (absent) of Total Coliform.
- (7) In May 2015, the SWRCB recommended a fluoride level in the treated water be maintained at 0.7 ppm. In 2015, the range and average of the fluoride levels were 0.6 ppm - 1.0 ppm and 0.8 ppm, respectively.
- (8) The natural fluoride levels in the upcountry sources were ND. Elevated fluoride levels in the SVWTP and HTWTP raw water are attributed to the transfer of fluoridated Hetch Hetchy water into the local reservoirs.
- (9) This is the highest running annual average value.
- (10) The most recent Lead and Copper Rule monitoring was in 2015. 0 of 32 site samples collected at consumer taps had copper concentrations above the AL.
- (11) The most recent Lead and Copper Rule monitoring was in 2015. 0 of 32 site samples collected at consumer taps had lead concentrations above the AL.
- (12) Bromide was detected in HTWTP effluent only. If you do not receive HTWTP water in 2015, you may exclude this contaminant from this table.
- (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 Mid-Peninsula Water District phone number at 650-591-8941.





# Drinking Water Sources and Treatment

Supplied by the San Francisco Regional Water System (SFRWS) – which is owned and operated by the San Francisco Public Utilities Commission (SFPUC) – our 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 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 provided by the SFRWS, 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.

The 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, and delivered to the Sunol Valley Water Treatment Plant (SVWTP). 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 delivered to the Harry Tracy Water Treatment



Plant. Beginning in 2015, the SWRCB approved the SFRWS to use surface water collected in Lake Eleanor, Lake Cherry, Early Intake Reservoir and conveyed via the Lower Cherry Aqueduct, and the associated creeks (collectively known as Upcountry Non-Hetch Hetchy Sources, or UNHHS) as an additional drinking water source. The UNHHS water will be treated at the SVWTP prior to service to customers. Water at the two treatment plants is subject to filtration, disinfection, fluoridation, and pH adjustment for corrosion control optimization.

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 2015. ■

