

# Water Quality Matters

## 2020 Annual Water Quality Report Moccasin Compound Water System



*Water conservation is important, keep conserving! [sfpuc.org/learning/conserves-water](https://sfpuc.org/learning/conserves-water)*

### Our Drinking Water Sources

The drinking water of Moccasin Compound Water System (MCWS) is supplied by the San Francisco Regional Water System (SFRWS), which is operated by the San Francisco Public Utilities Commission (SFPUC). Its water source originates from spring snowmelt flowing down the Tuolumne River to storage in the Hetch Hetchy Reservoir. This 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-DDW). Water received from Hetch Hetchy Reservoir was treated at MCWS to meet the appropriate drinking water standards for consumption. The treatment processes consists of ultraviolet (UV) and chlorine disinfection as well as pH adjustment for optimum corrosion control.

### Protecting Our Watersheds

The supplier conducts a watershed sanitary survey for the Hetch Hetchy source annually (this includes Priest Reservoir and Moccasin Reservoir). The survey was completed with support from partner agencies including National Park Service and US Forest Service. The purpose of the survey is to evaluate the sanitary conditions, water quality, results of watershed management activities, and identify potential contamination sources that may affect the watershed. Wildfire, wildlife, livestock, and human activities continued to be the potential contamination sources. You may contact the San Francisco District office of SWRCB-DDW at 510-620-3474 to review these reports.

### Water Quality

In conjunction with the supplier, we regularly collect and test water samples from reservoirs and designated sampling points throughout the system to ensure that the water delivered to you meets or exceeds federal and state drinking water standards. In 2020, we conducted more than 6,700 drinking water tests in the upcountry portion of the SFRWS and for the MCWS. This monitoring effort is in addition to the extensive process control monitoring performed by our certified and knowledgeable operators and our 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-DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

## 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.

Such individuals should seek advice about drinking water from their healthcare 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 1-800-426-4791. Additional drinking water information is available at <https://www.epa.gov/ground-water-and-drinking-water>.

## Contaminants and Regulations

Potential sources of contamination for drinking water (both tap and bottled) 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, 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.

More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline **800-426-4791**, or at <https://www.epa.gov/ground-water-and-drinking-water>.

## Drinking water and lead

Exposure to lead, if present, can cause serious health effects in all age groups, especially for pregnant women and young children. Infants and children who drink water containing lead could have decreases in IQ and attention span and increases in learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

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 and removing lead pipes, but we cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your pipes for several minutes, such as running your tap, taking a shower, doing laundry or a load of dishes, before using water for drinking and cooking. You can also use a filter certified by an American National Standards Institute accredited certifier to remove lead from drinking water. If you are concerned about lead in your water, you may wish to have your water tested. Information about lead in drinking water, testing methods, and steps you can take to minimize exposure is available at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

### Lead User Service Line (LUSL)

As previously reported, we completed an LUSL inventory in our distribution system in 2018 and there are no known service lines made of lead. Our policy is to remove and replace any LUSL promptly if it is discovered during pipeline repair and/or maintenance. Contact us at (209)-989-2084 for information on LUSL.

### Lead and Copper Tap Sampling Results

We conducted our triennial Lead and Copper Rule (LCR) monitoring in 2019, and no tap sites had lead levels exceeded the regulatory Action Level. LCR monitoring occurs at household taps within residences. The results do not represent lead and copper concentrations throughout the distribution system. The next round of LCR monitoring will be in 2022. Contact us at (209)-989-2084 for the tap monitoring results.

### Lead Monitoring at Schools

We did not conduct this monitoring, as there are no schools in our service areas.

### Key Water Quality Terms

Following are definitions of key terms noted on the water quality data table below. These terms refer to the standards and goals for water quality.

- ***Cryptosporidium***: is a parasitic microbe found in most surface water. We regularly test for this waterborne pathogen. However, routine sampling in 2020 was not conducted due to restrictions and staff shortages attributed to COVID-19 pandemic conditions. Typically *Cryptosporidium* is found at very low levels in source water and treated water. 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 (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 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.
- **Primary Drinking Water Standard (PDWS):** MCLs, MRDLs, and TT (see below) 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 (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.
- **Turbidity:** A water clarity indicator that measures cloudiness of the water. High turbidity can hinder the effectiveness of disinfectants.

### Moccasin Compound Water Quality Data for Year 2020

The table below lists all drinking water contaminants detected in 2020 and the information about their typical sources. Contaminants below detection limits for reporting purposes are not shown, in accord with regulatory guidance. The supplier holds a SWRCB-DDW monitoring waiver for some contaminants and therefore their monitoring frequencies are less than annual. Visit [sfpuc.org/waterquality](http://sfpuc.org/waterquality) for a list of all water quality parameters monitored in raw water and treated water by the SFRWS in 2020.

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	0.1 – 0.3 <sup>(1)</sup>	[2.2] <sup>(2)</sup>	Soil runoff
DISINFECTION BYPRODUCTS						
Total Trihalomethanes	ppb	80	N/A	32 – 47	[69] <sup>(3)</sup>	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	24 – 42	[43] <sup>(3)</sup>	
MICROBIOLOGICAL						
Total Coliform	0	NoP ≤ 1 per month	(0)	0	[0]	Naturally present in the environment
<i>Giardia lamblia</i> <sup>(4)</sup>	cyst/L	TT	(0)	0 - 0.03	0.02	
INORGANIC CHEMICALS						
Chlorine	ppm	MRDL = 4.0	MRDLG = 4	0.3 - 1.2	[0.7] <sup>(5)</sup>	Drinking water disinfectant added for treatment

CONSTITUENTS WITH SECONDARY STANDARDS	Unit	SMCL	PHG	Level Found	Average	Typical Sources of Contaminant
Color	units	15	N/A	7	7	Naturally-occurring organic materials
Chloride	ppm	500	N/A	3	3	Runoff / leaching from natural deposits
Specific Conductance	µS/cm	1600	N/A	35	35	Substances that form ions when in water
Sulfate	ppm	500	N/A	0.6	0.6	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.3	0.3	Soil runoff
LEAD AND COPPER	Unit	AL	PHG	Range	90th Percentile	Major Sources in Drinking Water
Copper	ppb	1300	300	10 - 140 <sup>(6)</sup>	133	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	< 1 - 20 <sup>(6)</sup>	< 5	Internal corrosion of household water plumbing systems

OTHER WATER QUALITY PARAMETERS	Unit	ORL	Range or Level Found	Average
Alkalinity (as CaCO <sub>3</sub> )	ppm	N/A	13	13
Chlorate <sup>(7)</sup>	ppb	800 (NL)	300	300
Calcium	ppm	N/A	1	1
Hardness (as CaCO <sub>3</sub> )	ppm	N/A	3	3
pH	pH	N/A	8.6 – 8.9	8.7
Potassium	ppm	N/A	0.3	0.3
Silica	ppm	N/A	4	4
Sodium	ppm	N/A	6	6
Strontium	ppb	N/A	10	10

KEY	
< / ≤	= less than / less than or equal to
AL	= Action Level
N/A	= Not Available
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

**Notes:**

- (1) These are average turbidity values reported every four hours daily.
- (2) Maximum measured value in 2020.
- (3) This is the highest locational running annual average value.
- (4) Reported results are from the prior year. Routine sampling in 2020 was not conducted due to restrictions and staff shortages attributed to COVID-19 pandemic conditions.
- (5) This is the highest running annual average value.
- (6) The most recent Lead and Copper Rule monitoring was in 2019. One of the 17 samples collected at the consumers' taps had lead concentration above the AL.
- (7) The detected chlorate in the treated water is a degradation byproduct of sodium hypochlorite, the primary disinfectant we use for water disinfection.

## More Information

For more information about the contents of this report, contact the Moccasin Water Quality Engineer at 209-989-2084. Call the Plumbing Supervisor, Hetch Hetchy Water & Power Moccasin Field Office, at 209-989-2076 to report a water or sewer problem.

Water quality policies are decided at SFPUC hearings, held the second and fourth Tuesdays of each month at 1:30 pm at San Francisco City Hall, Room 400. For more detail about the hearings, visit the SFPUC website [sfpuc.org/about-us/boards-commissions-committees/sfpuc-commission](https://sfpuc.org/about-us/boards-commissions-committees/sfpuc-commission)

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.*