

Water Quality Matters

2021 Annual Water Quality Report Moccasin Compound Water System



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Drinking Water Source and Treatment

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 is treated at MCWS to meet the appropriate drinking water standards for consumption. The Hetch Hetchy source receives the following treatment: pH adjustment for optimum corrosion control and disinfection using both ultraviolet light and chlorine.

Watershed Protection

The SFRWS conducts watershed sanitary surveys for the Hetch Hetchy source annually. The survey, together with SFRWS's stringent watershed protection management activities, were completed with support from National Park Service and US Forest Service. The purposes of the survey are to evaluate the sanitary condition and water quality of the watershed and to review results of watershed management activities conducted in the preceding year. 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

Together with the SFRWS, MCWS regularly collect and test water samples from tanks, 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 2021, more than 7,555 drinking water measurements and analyses were made in the upcountry portion of the SFRWS and for the MCWS. This was in addition to the extensive process control monitoring performed by certified operators and real-time monitoring from 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.

These people 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 [epa.gov/safewater](https://www.epa.gov/safewater).

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 [epa.gov/safewater](https://www.epa.gov/safewater).

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 [epa.gov/safewater/lead](https://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 one sample tap site had a lead level exceeding 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 the third quarter of 2022. Contact us at (209)-989-2084 for the tap monitoring results.

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. The SFRWS regularly tests for this waterborne pathogen and found it at very low levels in source water and treated water in 2021. 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.
- **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, MRDLs, and TT (see below)for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.
- **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 2021

This report is a snapshot of last year’s water quality. The tables below list detected contaminants in our drinking water in 2021 and the information about their typical sources. Contaminants below detection limits for reporting are not shown, in accord with regulatory guidance. The SFRWS holds a SWRCB monitoring waiver for some contaminants in the surface water supply and therefore 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	0.1 – 3.2 ⁽¹⁾	[3.2] ⁽²⁾	Soil runoff
DISINFECTION BYPRODUCTS						
Total Trihalomethanes	ppb	80	N/A	34 – 64	[54] ⁽³⁾	Byproduct of drinking water disinfection
Sum of Five Haloacetic Acids	ppb	60	N/A	29 – 45	[41] ⁽³⁾	
MICROBIOLOGICAL						
Total Coliform	0	NoP ≤ 1 per month	(0)	0	[0]	Naturally present in the environment
<i>Giardia lamblia</i> ⁽⁴⁾	cyst/L	TT	(0)	0 - 0.04	0.007	

INORGANIC CHEMICALS						
Chlorine	ppm	MRDL = 4.0	MRDLG = 4	0.67 – 0.70	[0.70] ⁽⁵⁾	Drinking water disinfectant added for treatment
CONSTITUENTS WITH SECONDARY STANDARDS	Unit	SMCL	PHG	Level Found	Average	Typical Sources of Contaminant
Chloride	ppm	500	N/A	4	4	Runoff / leaching from natural deposits
Specific Conductance	µS/cm	1600	N/A	39	39	Substances that form ions when in water
Sulfate	ppm	500	N/A	0.7	0.7	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.17	0.17	Soil runoff
LEAD AND COPPER	Unit	AL	PHG	Range	90th Percentile	Major Sources in Drinking Water
Copper	ppb	1300	300	10 - 140 ⁽⁶⁾	133	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	ND - 20 ⁽⁶⁾	ND	Internal corrosion of household water plumbing systems

OTHER WATER QUALITY PARAMETERS	Unit	ORL	Range or Level Found	Average
Alkalinity (as CaCO ₃)	ppm	N/A	13	13
Chlorate ⁽⁷⁾	ppb	800 (NL)	500	500
Calcium	ppm	N/A	1	1
Hardness (as CaCO ₃)	ppm	N/A	4	4
pH	pH	N/A	8.4 – 8.7	8.6
Iron	ppb	300	24	24
Aluminum	ppb	200	22	22
Sodium	ppm	N/A	6	6
Manganese	ppb	50	3	3

KEY	
< / ≤	= less than / less than or equal to
AL	= Action Level
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

Notes:

- (1) These are from the turbidity values reported every four hours daily.
- (2) Maximum value, recorded every 15 minutes, in 2021.
- (3) This is the highest disinfection byproduct locational running annual average value.
- (4) Reported results are from the San Francisco Regional Water System for the Hetch Hetchy Supply at Tesla Portal, just prior to disinfection.
- (5) This is the highest disinfectant residual running annual average, computed quarterly from monthly averages at the routine distribution system monitoring locations.
- (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.

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.