

ANNUAL WATER QUALITY REPORT

Reporting Year 2022

Presented By



Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

PWS ID#: CA4010011



Our Mission Continues

The City of Morro Bay is proud to present our annual water quality report. This report shows the results from all water quality testing completed from January 1 through December 31, 2022. City staff are constantly seeking the best approaches to delivering the highest-quality water possible to you and dedicated to producing drinking water that meets all state and federal standards. We remain committed to meeting the state's water source protection, water conservation, and community education goals and serving the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

Important Health Information

Nitrate in drinking water at levels above 10 parts per million (ppm) is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. Environmental Protection Agency (U.S. EPA)/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Safeguard Your Drinking Water

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- Dispose of chemicals properly; take used motor oil to a recycling center.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/lead.

The City of Morro Bay is responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components. 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 two minutes before using water for drinking or cooking.

Community Participation

The Public Works Advisory Board meets the third Wednesday of the month at 5:30 p.m. at Veterans Hall, 209 Surf Street. If you have concerns about your drinking water, time is set aside at the beginning of each meeting for public comment.

Source Water Assessment

Drinking water source assessments evaluate the area around a source through which contaminants might move and reach that supply. They include an inventory of possible contaminating activities (PCAs) that might lead to the release of microbiological or chemical contaminants within the delineated area and a determination of the PCAs to which the drinking water source is most vulnerable. An assessment for the Morro and Chorro wells was completed in 2001; an assessment was completed in 2009 for additional wells in the Morro basin that are being used as irrigation and feed water for the reverse osmosis plant. The results of these assessments are available to the public from the Public Works Department or the State Board.

QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please call Damaris Hanson, Utilities Division Manager, at (805) 772-6265.

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, 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.

In order to ensure that tap water is safe to drink, the U.S. EPA and the State Water Resources Control Board (State Board) 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. 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.

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 can 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 which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants that can be naturally occurring or can 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 U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



Where Does My Water Come From?

The City of Morro Bay's primary source is surface water from the State Water Project, administered locally by the Central Coast Water Authority (www.ccwa.com). The water is treated at the Polonio Pass water treatment plant, which is near the junction of Highways 41 and 46, and then pumped to Morro Bay. The State Water supply can be augmented by wells located near Lila Keiser Park (Morro basin). In 2022 State Water provided 96 percent of the city's drinking water, and the wells provided the remaining 4 percent.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Regulatory Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

CFU/ml (Colony forming unit per milliliter): A method used to assess the general microbiological quality of drinking water.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.

PHG (Public Health Goal): 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 EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

µmho/cm (micromhos per centimeter): A unit expressing the amount of electrical conductivity of a solution.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES									
				City of Morro Bay Wells		State Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppm)	2022	1	0.6	ND ¹	NA	0.054	ND–0.11	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	2022	10	0.004	0.2 ¹	ND–2 ¹	ND ²	NA	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	2022	1	2	0.149 ¹	0.119–0.230 ¹	NA	NA	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (ppm)	2022	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	2.03 ¹	0.10–3.9 ¹	2.80	0.21–3.7	No	Drinking water disinfectant added for treatment
Fluoride (ppm)	2022	2.0	1	0.2 ¹	0.2–0.2 ¹	NA	NA	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2022	15	(0)	NA	NA	4.9	NA	No	Erosion of natural deposits
HAA5 [sum of 5 haloacetic acids]–Stage 2 (ppb)	2022	60	NA	17.75 ¹	6–28 ¹	14 ²	8.6–19.7	No	By-product of drinking water disinfection
Hexavalent Chromium (ppb)	2022	NS ²	0.02	NA	NA	0.067	NA	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Magnesium (ppm)	2022	NA	NA	NA	NA	17	NA	No	Run/off leaching from natural deposits; seawater influence
Nitrate [as nitrogen] (ppm)	2022	10	10	9.9 ¹	8.9–21.4 ¹	NA	NA	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	2022	50	30	19.9 ¹	12–30 ¹	NA	NA	No	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2022	80 ³	NA	51.25 ¹	33–77 ¹	14	8.6–19.7	No	By-product of drinking water disinfection
Tap water samples were collected for lead and copper analyses from sample sites throughout the community									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE		
Copper (ppm)	2021	1.3	0.3	0.097	0	No	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives		
Lead (ppb) ⁵	2021	15	0.2	ND	0	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits		



SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	City of Morro Bay Wells		State Water		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Chloride (ppm)	2022	500	NS	213.3 ¹	135–920 ¹	104	74–145	No	Runoff/leaching from natural deposits; seawater influence
Corrosivity (units)	2022	Noncorrosive	NS	13 ¹	12.7–13.2 ¹	12.2	NA	No	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water affected by temperature and other factors
Specific Conductance (µS/cm)	2022	1,600	NS	NA	NA	701	585–937	No	Substances that form ions when in water; seawater influence
Specific Conductance (µmho/cm)	2022	1,600	NS	2242.9 ¹	1,470–3,970 ¹	NA	NA	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2022	500	NS	159 ¹	141–173 ¹	96	96–96	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2022	1,000	NS	1462.9 ¹	930–2,600 ¹	380	380–380	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2022	5	NS	0.1 ¹	ND–0.2 ¹	0.06	ND–0.25	No	Soil runoff

UNREGULATED SUBSTANCES⁴

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	City of Morro Bay Wells		State Water		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Alkalinity (ppm)	2022	424.3 ¹	390–460 ¹	80	68–102	Run/off leaching from natural deposits; seawater influence
Bicarbonate Alkalinity [as HCO ₃] (ppm)	2022	NA	NA	110	NA	NA
Boron (ppb)	2022	157.1 ¹	100–200 ¹	NA	NA	Runoff/leaching from natural deposits
Calcium (ppm)	2022	137.3 ¹	113–220 ¹	29	NA	Run/off leaching from natural deposits; seawater influence
Geosmin (ppt)	2022	NA	NA	0.3	ND–2	An organic compound mainly produced by blue-green algae (cyanobacteria)
Hardness, Total [as CaCO ₃] (ppm)	2022	904.3 ¹	714–1,400 ¹	127	104–158	Runoff/leaching from natural deposits
Heterotrophic Plate Count (CFU/ml)	2022	0.16 ¹	ND–2 ¹	2	ND–98	Bacteria that are common in water
Magnesium (ppm)	2022	136.3 ¹	104–206 ¹	NA	NA	Runoff/leaching from natural deposits; industrial wastes
Methylisoborneol (ppt)	2022	NA	NA	7.7	ND–32	An organic compound mainly produced by blue-green algae (cyanobacteria)
pH (units)	2022	7.75 ¹	6.6–8.3 ¹	8.4	7.2–8.9	Runoff/leaching from natural deposits
Potassium (ppm)	2022	1.6 ¹	ND–3 ¹	3.6	NA	Runoff/leaching from natural deposits; seawater influence
Sodium (ppm)	2022	124.7 ¹	59–285 ¹	76	NA	Run/off leaching from natural deposits; seawater influence
Total Organic Carbon [TOC] (ppm)	2022	NA	NA	2.9	1.9–4.5	Various natural and human-made sources
Vanadium (ppb)	2022	1.3 ¹	ND–3 ¹	NA	NA	Naturally occurring

¹Raw water samples taken prior to treatment or blending in 2021.

²There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

³Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer.

⁴Unregulated contaminant monitoring helps U.S. EPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.

⁵Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and/or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the U.S. EPA Safe Drinking Water Hotline at 1-800-426-4791

Think before You Flush!

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of our waterways by disposing responsibly. To find a convenient drop-off location near you, please visit <https://bit.ly/3IeRyXy>.

Water Treatment Process

Some of the well water has nitrate levels that require treatment through filtration. The city uses a brackish water reverse osmosis plant to remove nitrates. All well water is treated with disinfectant prior to use.