

# ANNUAL WATER QUALITY REPORT

Reporting Year 2024



***Presented By***  
**Morro Bay Public  
Works Department**

## Delivering Excellence

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, 2024. 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.

## 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 (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. This water is treated with chloramines. The State Water supply can be augmented by wells located near Lila Keiser Park (Morro Basin). The water from Morro Basin has high nitrate levels and therefore requires treatment before distribution. The water from Morro Valley wells is either treated at the brackish water reverse osmosis facility or blended with State Water to lower the nitrate levels. In 2024 State Water provided 82 percent of the city's drinking water, and the wells provided the remaining 18 percent.



## Important Health Information

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, can be particularly at risk from infections. These people should seek advice about drinking water from their health-care providers. 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 [epa.gov/safewater](http://epa.gov/safewater).

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.



## Think Before You Sink: A Guide to What You Can and Can't Flush Down the Drain

When cleaning up after cooking, it can be tempting to wash leftover ingredients and food scraps down the drain. But did you know that keeping oil, food scraps, and leftover waste out of your sink can prevent household pipe damage? Remember to think before you sink to protect your home and Morro Bay's water resources, infrastructure, and the environment.

### What NOT to Put Down the Drain

- Grease, oils and fats (FOG), including meats, cooking oils, lard, shortening, and butter
- Eggshells
- Coffee grounds
- Produce stickers
- Cleaning products
- Wipes of any kind
- Paint
- Car fluids
- Medications (Learn more about proper medication disposal below.)



### What to Flush/Put Down the Drain

- Human waste
- Toilet paper and feminine products
- Water

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 [bit.ly/3leRyXy](http://bit.ly/3leRyXy).

## QUESTIONS?

For more information about this report, or any questions relating to your drinking water, please contact Damaris Hanson at (805) 772-6265 or [dhanson@morrobayca.gov](mailto:dhanson@morrobayca.gov).

## 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.

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, 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 the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the U.S. EPA and the State Water Resources Control Board (SWRCB) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. 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. 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.

## Community Participation

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

## What Are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

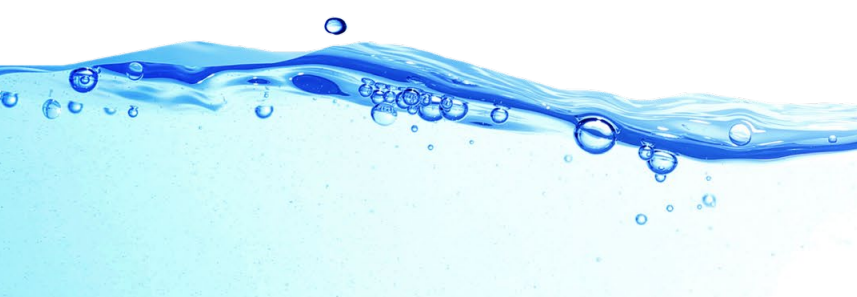
Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit [bit.ly/3Z5AMm8](https://bit.ly/3Z5AMm8).

## Source Water Assessment

A source water assessment has been completed for our system. The purpose of the assessment is to determine the susceptibility of each drinking water source to potential contaminant sources. The report includes background information and a relative susceptibility rating of higher, moderate, or lower. It is important to understand that a higher susceptibility rating does not imply poor water quality, only the system's potential to become contaminated within the assessment area. An assessment for the Morro 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 feedwater for the reverse osmosis plant. Please call the Public Works Department at (805) 772-6265 for access to these assessments.





## 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 is included, along with the year in which the sample was taken.

We participated in the fifth stage of the U.S. EPA’s Unregulated Contaminant Monitoring Rule (UCMR5) program by performing additional tests on our drinking water. UCMR5 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water to determine if it needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data is available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA’s Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES											
				Treated Groundwater¹		Groundwater Wells		State Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppm)	2024	1²	0.6	NA	NA	NA	NA	ND	ND–0.071	No	Erosion of natural deposits; residue from some surface water treatment processes
Barium (ppm)	2024	1	2	ND	NA	0.109	ND–0.188	NA	NA	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (ppm)	2024	[4.0 (as Cl₂)]	[4 (as Cl₂)]			NA	NA	2.85	0.18–3.84	No	Drinking water disinfectant added for treatment
Chromium, Total (ppb)	2024	50	(100)	ND	NA	36	33–39	NA	NA	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2024	2.0	1	ND	NA	0.2	NA	NA	NA	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
HAA5 [sum of 5 haloacetic acids] (ppb)	2024	60	NA	NA	NA	24	14–37	22.5³	8.1–25	No	By-product of drinking water disinfection
Nitrate [as nitrogen] (ppm)	2024	10⁴	10	1.9	NA	36	14–73	0.53	NA	Yes	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	2024	50	30	ND	NA	29	19–40	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)
Total Organic Carbon [TOC] (ppm)	2024	TT⁵	NA	NA	NA	NA	NA	1.9	1.2–2.5	No	Naturally present in the environment
TTHMs [total trihalomethanes] (ppb)	2024	80	NA	NA	NA	38	26–46	60.8³	22–76	No	By-product of drinking water disinfection
Turbidity⁶ (NTU)	2024	TT	NA	NA	NA	NA	NA	0.15	NA	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2024	TT = 95% of samples meet the limit	NA	NA	NA	NA	NA	100%	NA	No	Soil runoff
Uranium (pCi/L)	2024	20	0.43	NA	NA	NA	NA	ND	NA	No	Erosion of natural deposits

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)	Range Low-High	Sites Above AL/Total Sites	Violation	Typical Source
Copper (ppm)	2024	1.3	0.3	0.09	ND–0.181	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead <sup>7</sup> (ppb)	2024	15	0.2	ND	ND–77	1/30	No	Corrosion of household plumbing systems; erosion of natural deposits

SECONDARY SUBSTANCES

					Treated Groundwater <sup>1</sup>		Groundwater Wells		State Water			
Substance (Unit of Measure)	Year Sampled	SMCL	PHG (MCLG)	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Violation	Typical Source	
Chloride (ppm)	2024	500	NS	11	NA	233	94–730	62	30–138	No	Runoff/leaching from natural deposits; seawater influence	
Color (ACU)	2024	15	NS	NA	NA	NA	NA	3	NA	No	Naturally occurring organic materials	
Corrosivity (units)	2024	Noncorrosive <sup>8</sup>	NS	10.2	NA	12.8	12.5–13	12	NA	No	Natural or industrially influenced balance of hydrogen, carbon, and oxygen affected by temperature and other factors	
Iron (ppb)	2024	300	NS	ND	NA	7	ND–50	NA	NA	No	Leaching from natural deposits; industrial wastes	
Specific Conductance (µS/cm)	2024	1,600	NS	158	NA	1,733	1,200–3,310	422	273–718	No	Substances that form ions when in water; seawater influence	
Sulfate (ppm)	2024	500	NS	4.1	NA	149	121–182	60	NA	No	Runoff/leaching from natural deposits; industrial wastes	
Total Dissolved Solids (ppm)	2024	1,000	NS	NA	NA	NA	NA	270	NA	No	Runoff/leaching from natural deposits	
Turbidity (NTU)	2024	5	NS	0.1	NA	0.2	ND–1.2	0.06	ND–0.18	No	Soil runoff	
Zinc (ppm)	2024	5.0	NS	ND	NA	14	ND–40	NA	NA	No	Runoff/leaching from natural deposits; industrial wastes	

UNREGULATED SUBSTANCES<sup>9</sup>

		Treated Groundwater <sup>1</sup>		Groundwater Wells		State Water			
Substance (Unit of Measure)	Year Sampled	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Typical Source	
Alkalinity (ppm)	2024	50	NA	424	380–450	64	40–80	NA	
Anion Sum, Calculated (mEq/L)	2024	NA	NA	NA	NA	4.6	NA	NA	
Bicarbonate Alkalinity [as CaCO3] (ppm)	2024	NA	NA	NA	NA	66	NA	NA	
Boron (ppb)	2024	120	NA	185	95–260	NA	NA	NA	
Calcium (ppm)	2024	16	NA	111	81–164	23	ND–23	NA	
Cation Sum, Calculated (mEq/L)	2024	NA	NA	NA	NA	4.8	NA	NA	
Chromium-6 (ppb)	2024	NA	NA	NA	NA	0.099	NA	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits	
Hardness, Total [as CaCO3] (ppm)	2024	39.9	NA	692	519–1010	88	35–148	NA	
Heterotrophic Plate Count <sup>10</sup> (CFU/mL)	2024	NA	NA	NA	NA	1	0–15	Bacteria that are naturally present in the environment	
Langelier Index at 25 degrees C (none)	2024	NA	NA	NA	NA	-0.16	NA	NA	
Magnesium (ppm)	2024	ND	NA	101	77–146	13	NA	Runoff/leaching from natural deposits; seawater influence	
pH (standard units)	2024	6.88	NA	7.85	7.34–8.12	8.4	7.6–8.8	Runoff/leaching from natural deposits; seawater influence	
Potassium (ppm)	2024	ND	NA	1	ND–2	3.5	NA	Runoff/leaching from natural deposits; seawater influence	
Sodium (ppm)	2024	12	NA	95	52–249	57	NA	NA	
Vanadium (ppb)	2024	ND	NA	13	11–14	NA	NA	NA	

## Lead in Home Plumbing

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. The City of Morro Bay is responsible for providing high-quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter certified by an American National Standards Institute-accredited certifier to reduce lead is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure it is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling does not remove lead from water.

Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, or doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead and wish to have your water tested, contact Damaris Hanson at (805) 772-6265. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at [epa.gov/safewater/lead](http://epa.gov/safewater/lead).

To address lead in drinking water, public water systems were required to develop and maintain an inventory of service line materials by October 16, 2024. Developing an inventory and identifying the location of lead service lines (LSL) is the first step for beginning LSL replacement and protecting public health. Please contact us at (805) 772-6265 for access to the inventory or information about any lead sampling that has been done.



<sup>1</sup>Treated Groundwater comes from brackish water reverse osmosis facility.

<sup>2</sup>Aluminum has an SMCL of 0.2 ppm.

<sup>3</sup>Amount detected reflects the highest LRAA; Compliance based on the running quarterly annual average of distribution system samples.

<sup>4</sup>State MCL is 45 ppm as NO<sub>3</sub>, which equals 10 ppm as N.

<sup>5</sup>TOC samples are taken at the treatment plant's combined filter effluent. The value reported under Amount Detected for TOC is the lowest ratio of percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements.

<sup>6</sup>Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Monthly turbidity values are listed in the Secondary Standards section.

<sup>7</sup>Infants 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 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 (800) 426-4791.

<sup>8</sup>Al <sup>3</sup> 12.0 = nonaggressive water; Al (10.0 - 11.9) = moderately aggressive water; Al  $\leq$  10.0 = highly aggressive water.

<sup>9</sup>Unregulated contaminant monitoring helps the U.S. EPA and SWRCB determine where certain contaminants occur and whether the contaminants need to be regulated.

<sup>10</sup>Pour plate technique.

## 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.

**ACU:** Apparent color unit.

**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 units

**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 US EPA.

**mEq/L:** Milliequivalents per liter.

**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 ( $\mu$ g/L) (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (mg/L) (parts per million):** One part substance per million parts water (or milligrams per liter).

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

**$\mu$ S/cm (microsiemens per centimeter):** A unit expressing the amount of electrical conductivity of a solution.