



# 2022 ANNUAL WATER QUALITY REPORT

## A Consumer Confidence Report

### Contaminants That May Be in Source Water

- Microbial contaminants, such as viruses and bacteria, which may come from surface runoff, sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which 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, which 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

### Statement About 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. The City of Lincoln is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components.

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. Only use water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot tap water is likely to contain higher levels of lead.

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

### Your Drinking Water Sources

Last year, as in years past, your drinking water provided by the City of Lincoln met all U.S. Environmental Protection Agency (USEPA) and State Water Resources Control Board (SWRCB) health standards. The City operates a conjunctive use water system, which includes raw and treated surface water supplies from Placer County Water Agency (PCWA) and the operation of five City-owned municipal wells. PCWA supplies up to 18 million gallons a day (MGD) of treated wholesale surface water to the City. PCWA surface water originates in the Sierra snow pack. The City wells can produce up to 8 MGD of drinking water which requires only disinfection treatment and helps to efficiently manage the water system, especially during a potential outage by PCWA and in the event of a drought. The City has 13 million gallons available from gravity storage facilities. This report summarizes the test results of water samples taken both by PCWA and City staff. Without exception, every water test sample showed contaminant levels well below the maximum contaminant levels (MCL) established by the USEPA and the SWRCB.

### For Your Information...

**Fluoride:** Fluoride is naturally present at low levels in well water, averaging about 0.2 parts per million (ppm). The City and PCWA do not add fluoride to the treated water supply.

**Water Hardness:** Hardness is usually measured in grains per gallon. PCWA treated surface water averages 0.78 grains per gallon, which is very soft. The City well water averages 5.7 grains per gallon, which is moderately hard. The City water is generally considered soft but may approach moderately hard depending on the proximity of a residence to a well and how much blending occurs with PCWA water.

**Entrained Air:** If your tap water has a slightly "milky" appearance, you are probably experiencing an interesting but harmless phenomenon known as "entrained air." The milky color in the water, caused by tiny air bubbles, is harmless and is related to the operation of City wells. The air is dissolved under pressure in the groundwater, much like carbon dioxide in a bottle of soda. If your tap water is milky-colored and you want to confirm you are experiencing entrained air, rinse out a clear glass twice and then fill it with cold tap water. After a few moments, the water should begin to clear from the bottom of the glass to the top as the bubbles rise to the surface. If the water does not clear, please contact us.

Our water quality is excellent and continues to exceed all water quality standards. The City is not responsible for plumbing and treatment devices installed on private property. Sub-standard, illegal, old, improperly installed and/or improperly maintained plumbing or water treatment devices installed by others may adversely affect the water quality coming from the taps inside your home or business.

### To Our Water Customers:

This report is prepared in accordance with the U.S. Environmental Protection Agency (USEPA) and SWRCB's regulations requiring water utilities to provide detailed water quality information to their customers annually. The table contains water testing results done in 2022.

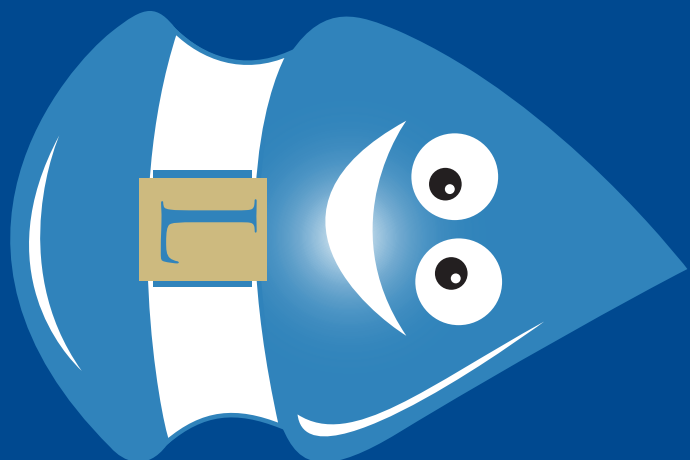
This publication also includes information about where your water comes from, what it contains, and how it compares to state and federal standards.

In addition to the substances reported, approximately 100 other substances were checked with no measurable amounts found. For more information visit the City website at [www.lincolncalifornia.gov](http://www.lincolncalifornia.gov). If you have questions about this report, please contact the Public Works Department at 916-434-2450 or via e-mail at [publicservices@lincolncalifornia.gov](mailto:publicservices@lincolncalifornia.gov).

The U.S. Environmental Protection Agency (USEPA) has a Safe Drinking Water Hotline at 1-800-426-4791 and a website at [www.epa.gov/dwreginfo/drinking-water-regulations](http://www.epa.gov/dwreginfo/drinking-water-regulations).

California notification levels are available at [www.waterboards.ca.gov/drinking\\_water/cert/cdrinkingwater/CCR.html](http://www.waterboards.ca.gov/drinking_water/cert/cdrinkingwater/CCR.html).

## 2022 ANNUAL WATER QUALITY REPORT





Flushing Water Lines



Flow Control at City Well



Lake Spalding

## Things You Should Know About Drinking Water

Drinking water, including bottled drinking water, may reasonably be expected to contain 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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).



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.

Some people may be more vulnerable to contaminants, such as Cryptosporidium, in drinking water than the general population. Cryptosporidium is a microbial pathogen found in most surface waters. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause an abdominal infection. Symptoms include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised 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 individuals 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 Safe Drinking Water Hotline (1-800-426-4791).

## Definitions

**Contaminant:** The term "contaminant," as used in this document, refers to any substance in water, other than pure water itself that is regulated and monitored for health and aesthetic reasons.

**HRAA:** Highest Running Annual Average.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Public Health Goals (PHGs) or MCLGs as is economically and technologically feasible. Secondary MCLs 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 US Environmental Protection Agency.

**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.

**MicroSiemens per centimeter (µS/cm):** A measurement of water's ability to conduct electrical current.

**Nephelometric Turbidity Units (NTU):** A measure of the clarity in the water. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

**Non-Detect (ND):** Laboratory analysis indicates that the contaminant is not present.

**Parts per billion (ppb) or micrograms per liter (µg/L):** One part per billion corresponds to one minute in two thousand years or a single penny in \$10,000,000.

**Parts per million (ppm) or milligram per liter (mg/L):** One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Picocuries per liter (pCi/L):** A measure of the radioactivity in water.

**Primary Drinking Water Standard (PDWS):** MCLs and MRDLs 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 US Environmental Protection Agency.

**RAA:** Running Annual Average.

**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.

## 2022 City of Lincoln Groundwater Quality

Contaminant (units)	MCL/AL	PHG (MCLG) [MRDLG]	Major Source in Drinking Water (as provided by the State Department of Health Services)	Groundwater (Wells)		
				Range	Avg	MCL Violation?
<b>Primary Drinking Water Standards</b>						
Arsenic (ppb)	10	0.004	Erosion of natural deposits	0 – 2.5	0.94	No
Barium (ppm)	1	2	Erosion of natural deposits	0 – 0.1	0.0324	No
Chromium [Total] (ppb)	50	100	Erosion of natural deposits	0 – 10.0	2.00	No
Fluoride (ppm)	2	1	Erosion of natural deposits; Water additive which promotes strong teeth	0.21 – 0.38	0.266	No
Nitrate (ppm)	10 as N	10 as N	Runoff from fertilizer use; Leaching from septic tanks	1.5 – 3.8	2.04	No
Perchlorate (ppb)	6	6	Environmental contamination from historic industrial operations	0	0	No
<b>Regulated Contaminants with Secondary MCLs (California Code of Regulations)</b>						
Odor -- Threshold (units)	3	None	Naturally-occurring organic materials	0 – 2.0	1.12	No
Turbidity (NTU)	5	None	Soil runoff	0.11 – 0.5	0.286	No
Total dissolved solids (ppm)	1,000	None	Runoff/leaching from natural deposits	220 – 310	242	No
Specific conductance (µS/cm)	1,600	None	Substances that form ions when in water; seawater influence	290 – 440	346	No
Chloride (ppm)	500	None	Runoff/leaching from natural deposits; seawater influence	22 – 57	32.6	No
Sulfate (ppm)	500	None	Runoff/leaching from natural deposits; industrial wastes	7.8 – 18	10.96	No
Manganese	50	None	Leaching from natural deposits	0 – 20	4.00	No
<b>Monitoring of Unregulated Substances</b>						
Sodium (ppm)	No Standard	No Standard	Generally found in ground and surface water	28 – 50	35.6	No
Hardness (as CaCO <sub>3</sub> ) ppm	No Standard	No Standard	Generally found in ground and surface water	76 – 140	97.8	No
Alkalinity (as CaCO <sub>3</sub> ) ppm	No Standard	No Standard	Generally found in ground and surface water	98 – 120	105.4	No
Calcium (ppm)	No Standard	No Standard	Generally found in ground and surface water	14 – 25	17.6	No
Magnesium (ppm)	No Standard	No Standard	Generally found in ground and surface water	9.7 – 18	12.94	No

## 2022 Surface Water (Placer County Water Agency Purchased Water\*)

Contaminant (units)	MCL/AL	PHG (MCLG) [MRDLG]	Major Source in Drinking Water (as provided by the State Dept. of Health Services)	Surface Water Range and Avg or (HRAA)	Ground Water Range and Avg or (HRAA)	MCL Violation?
<b>Primary Drinking Water Standards</b>						
Total Organic Carbon (ppm)	TT=RAA<2	None	Various natural and manmade sources	0.9 – 1.4 (1.1)	Groundwater wells were not used during 2022	No
Chlorine (ppm)	4	[4]	Drinking water disinfectant added for treatment	0.17 – 1.3 (0.85)		No
Total Trihalomethanes (ppb)	80	None	By-product of drinking water disinfection	22 – 62 (57)		No
Total Haloacetic Acids (HAA) (ppb)	60	None	By-product of drinking water disinfection	16 – 37 (36.25)		No
Fluoride(mg/l)	2	1	Runoff/leaching from natural deposits	0		No
Nitrate (as Nitrogen)	10	10	Runoff/leaching from natural deposits and fertilizer	0		No
Nitrite (as Nitrogen)	1	1	Runoff/leaching from natural deposits and fertilizer	0		No
<b>Secondary Drinking Water Standards</b>						
Chloride (ppm)	500	None	Runoff/leaching from natural deposits	5.73 – 5.74 5.74	Groundwater wells were not used during 2022	No
Manganese (ppb)	0.05	None	Runoff/leaching from natural deposits	0		No
Specific conductance (µS/cm)	1,600	None	Substances that form ions when in water	62		No
Sulfate (ppm)	500	None	Runoff/leaching from natural deposits	5.3		No
Total dissolved solids (ppm)	1000	None	Runoff/leaching from natural deposits	9 – 20 14.5		No
Zinc (ppm)	5	None	Runoff/leaching from natural deposits	0		No
<b>Monitoring of Unregulated Substances</b>						
Carbonate Alkalinity (ppm)	None	None	Runoff/leaching from natural deposits	0	Groundwater wells were not used during 2022	No
Bicarbonate Alkalinity (ppm)	None	None	Runoff/leaching from natural deposits	15		No
Total Alkalinity (ppm)	None	None	Runoff/leaching from natural deposits	15		No
Calcium (ppm)	None	None	Runoff/leaching from natural deposits	3.54 – 3.68 3.61		No
Hardness (ppm)	None	None	Runoff/leaching from natural deposits	13.2 – 13.6 13.4		No
Magnesium (ppm)	None	None	Runoff/leaching from natural deposits	1.06 – 1.07 1.07		No
Sodium (ppm)	None	None	Runoff/leaching from natural deposits	6.9 – 7.06 6.98		No

\* Results based on 2022 PCWA water quality report supplied by PCWA to the City of Lincoln.

**Turbidity Performance Standards** (that must be met through the water treatment process). *Turbidity is a measurement of clarity or the level of suspended matter in the water. In reporting turbidity, the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits are specified. Turbidity of the filtered water must:* 1) Be less than or equal to 0.3 NTU in 95% of measurements in a month. 2) Not exceed 1 NTU at any time.

Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1

100% (PCWA)

Highest single turbidity measurement during the year

0.17 (PCWA)

Number of violations of any surface water treatment requirements

0 (PCWA)

## 2022 City of Lincoln Distribution System Water Quality

	MCL (MRDL/ MRDLG)	Running Annual Average	Range of Detections	Typical Source of Contaminant	MCL Violation?
<b>Primary Drinking Water Standards</b>					
TTHMs[Total trihalomethanes](ppb)	80	38.58	5.2 – 61	By-product of drinking water chlorination	No
Haloacetic Acids (HAA) (ppb)	60	23.88	3.1 – 38	By-product of drinking water chlorination	No
Chlorine (ppm)	(4 / 4)	0.86	0.34 – 1.44	Disinfectant added for treatment	No

MCL = Systems that collect more than 40 samples per month: More than 5% positive samples in any one month

◊ = Highest number of positive samples in any one month

### Lead and Copper Action Levels at Residential Taps

	Action Level (AL)	PHG (MCLG)	90th Percentile Value	Sites Exceeding AL	Sites Tested	Typical Source of Contaminant	AL Violation?	MCL Violation?
Lead (ppb)	15	0.2	0	0	32	Corrosion of household plumbing	No	No
Copper (ppb)	1,300	300	0	0	32	Corrosion of household plumbing	No	No