

A close-up photograph of water being poured from a glass pitcher into a clear glass. The water is captured in mid-pour, creating a dynamic splash and bubbles. The background is a blurred wooden surface.

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018

Presented By



**Utilities
Department**
City of San Luis Obispo

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve 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

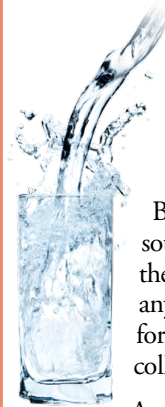
Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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>.



Community Participation

City Council meetings are held on the first and third Tuesdays of each month, at 6:00 p.m. at City Hall, 990 Palm Street, San Luis Obispo, California. A public comment period is held at the beginning of each meeting.

Source Water Assessment



Assessments of the drinking water sources for the City of San Luis Obispo have been conducted. These sources include Salinas Reservoir, Whale Rock Reservoir, Nacimiento Lake, Pacific Beach Well, and Fire Station #4 Well. These sources are considered most vulnerable to the following activities not associated with any detected contaminants: grazing, managed forests, recreational areas, septic systems, sewer collection systems, and gas stations.

A copy of the complete assessment is available from the SWRCB Division of Drinking Water, 1180 Eugenia Place, Suite 200, Carpinteria, California, 93013; or the City of San Luis Obispo, 879 Morro Street, San Luis Obispo, California, 93401.

Water Treatment Process

The treatment process consists of a series of steps referred to as conventional surface water treatment. First, raw water is drawn from our water source and sent to an ozone contact basin (primary disinfectant), which allows for oxidation of the high iron levels that are present in the water. The water then goes to a mixing tank where aluminum sulfate and cationic polymer are added. The addition of these substances causes small particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears, and clear water emerges. Chlorine is added as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, fluoride (to prevent tooth decay), and a corrosion inhibitor (to protect distribution system pipes) are added before the water is pumped to sanitized, underground reservoirs, water tanks, and into your home or business.



Where Does My Water Come From?

The City of San Luis Obispo is fortunate to have several sources of water. The Salinas Reservoir (also known as Santa Margarita Lake, eight miles east of Santa Margarita), Whale Rock Reservoir (Cayucos), and Nacimiento Lake (16 miles northwest of Paso Robles) are our main supplies. The surface water from the three lakes is treated at the Stenner Creek Water Treatment Plant. During 2018, our treatment plant delivered 1.71 billion gallons of water to San Luis Obispo.



The Benefits of Fluoridation

Our water system treats your water by adding fluoride to the naturally occurring level to help prevent dental caries in consumers. State regulations require the fluoride levels in the treated water be maintained within a range of 0.6–1.2 ppm with an optimum dose of 0.7 ppm. Our monitoring showed that the fluoride levels in the treated water ranged from 0.4–0.9 ppm with an average of 0.7 ppm. Information about fluoridation, oral health, and current issues is available from http://www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 2 minutes before using water for drinking or cooking. (If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) 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 at www.epa.gov/safewater/lead.

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. Environmental Protection Agency (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 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.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please contact Jason Meeks, Water Treatment Plant Supervisor, at (805) 781-7566 or jmeeks@slocity.org.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only 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 often 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							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppm)	2018	1	0.6	0.036	ND–0.1	No	Erosion of natural deposits; residue from some surface water treatment processes
Chlorine (ppm)	2018	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	0.83	0.04–1.8	No	Drinking water disinfectant added for treatment
Control of DBP precursors [TOC] ¹ (% removal)	2018	TT	NA	34	0–49	No	Various natural and man-made sources
Fluoride (ppm)	2018	2.0	1	0.7	0.4–0.9	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2011	15	(0)	0.0145	ND–0.029	No	Erosion of natural deposits
Haloacetic Acids ² (ppb)	2018	60	NA	15	4.0–35.0	No	By-product of drinking water disinfection
Hexavalent Chromium (ppb)	2015	10 ³	0.02	2.0	ND–12.0	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as nitrogen] (ppm)	2018	10	10	1.90	ND–2.6	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] ^{2,4} (ppb)	2018	80	NA	46	22–99	No	By-product of drinking water disinfection
Turbidity ⁵ (NTU)	2018	TT	NA	0.08	0.05–0.17	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2018	TT = 95% of samples meet the limit	NA	100%	NA	No	Soil runoff
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)	2016	1.3	0.3	0.169	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2016	15	0.2	1.1	0/30	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)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2018	200	NS	36.0	ND–100.0	No	Erosion of natural deposits; residual from some surface water treatment processes
Chloride (ppm)	2018	500	NS	24.0	24–24	No	Runoff/leaching from natural deposits; seawater influence
Specific Conductance (µmho/cm)	2018	1,600	NS	605	605–605	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2018	500	NS	102.0	102.0–102.0	No	Runoff/leaching from natural deposits; industrial wastes

UNREGULATED AND OTHER SUBSTANCES ⁶

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Hardness (ppm)	2018	171	118–280	Sum of polyvalent cations present in the water, generally, magnesium and calcium; usually naturally occurring
Sodium (ppm)	2018	27	9–39	Refers to the salt present in the water; generally, naturally occurring

¹Total organic carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection by-products such as TTHMs and HAA5s. The City's TOC reduction requirement was 25 - 35% based on a running annual average calculated quarterly.

²Regulatory compliance is determined based on the Locational Running Annual Average (LRAA). Additional sample results are included in this report along with regulatory compliance results.

³There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

⁴Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their livers, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

⁵Turbidity 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.

⁶Unregulated contaminant monitoring helps the U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

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 that, if exceeded, triggers treatment or other requirements that a water system must follow.

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.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAA5s are reported as the highest LRAAs.

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).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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