

SOURCES OF DRINKING 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, which may come from 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*, 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, and septic systems.

ADDITIONAL INFO

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 USEPA's Safe Drinking Water Hotline, 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. 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 people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline.

- *Radioactive contaminants* that can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

LEAD INFORMATION

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 County 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 2 minutes before using water for drinking or cooking. 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/safewater/lead

COMMUNITY PARTICIPATION

The San Luis Obispo County Board of Supervisors meets every Tuesday (except the 5th Tuesday in a month) in the board chambers located in the County Government Center at 1055 Monterey Street, San Luis Obispo. The Board holds budget hearings during the month of June. Interested persons should check the Board's agendas for specific dates. Agendas for all Board of Supervisors meetings are posted in some County libraries, the County Government Center, and on the Board of Supervisors internet web site at www.slocounty.ca.gov.

The public can also participate in the Zone 3 Advisory Group meetings. This group is composed of representatives from the Five-Cities area. The group meets at 6:30 pm on the 3rd Thursday of January, March, May, July, September, and November. Information on meeting times and places are published in the newspaper or can be obtained from the San Luis Obispo County Public Works Department.

WE'RE ON THE WEB!

WWW.SLOCOUNTYWATER.ORG



County of San Luis Obispo Department of Public Works Lopez Project 2012 Water Quality Report



The County of San Luis Obispo is pleased to present this annual report describing the quality of your drinking water. We sincerely hope this report gives you the information you seek and have a right to know. Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

2012 Water Statistics (million gallons)

Produced at LWTP	1611.8
State Water	615.0
Average Daily Delivered	6.10



WATER CONSERVATION

Because Lopez Lake, up to the time of the writing of this report, has received less than average rainfall this year, we would like to emphasize the importance of water conservation. Years of below average rainfall do impact reservoir levels. Please help us and do your part to conserve water. Thank you! Please note: There may be times when the Lopez Water Treatment Plant flows will be reduced or interrupted for maintenance.

YOUR WATER SUPPLY

Source water for the Lopez Water Treatment Plant (WTP) comes from Lopez Lake, located approximately 10 miles east of Arroyo Grande. The lake is part of a 67 square mile watershed and has a storage capacity of 49,200 acre-feet, or about 16 billion gallons of water. The water is conveyed 3 miles by pipeline to the Lopez Terminal Reservoir adjacent to the WTP. The water is held in the Terminal for over a month before entering the WTP. During that time, particles settle out of the water and exposure to sunlight helps reduce the risk of bacterial and viral contamination from human contact in Lopez Lake.

Several projects were completed this fiscal year to enhance delivery of Lopez water. First of the projects was the relocation and replacement of the inlet valve to the Terminal Reservoir. The valve was equipped with remote monitoring and control system to provide for more efficient operations and response times. Secondly, drainage improvements around the WTP were installed to prevent potential chemical delivery spills from contaminating Arroyo Grande Creek. Third, the security fence at Lopez Dam was repaired to maintain dam security. Finally, a 24-inch diameter valve was removed and replaced with a 32 inch diameter pipe section to improve flow rates in the distribution system. (We would like to thank Pismo Beach for providing water to our CSA-12 customers during the valve removal!)

Projects planned for the upcoming fiscal year include: 1) Construction of the first phase of a project to install 12,000 feet of improved security fencing around the WTP and Terminal Reservoir to deter trespassers; 2) Design of a control and monitoring system to provide for remote operation of Lopez turnouts, resulting in more efficient operations and 3) Installation of additional membrane filter modules to increase WTP treatment capacity by 10 percent.

A watershed sanitary survey was conducted in 1996 and updated in 2001, 2005, and 2010. A Drinking Water Source Assessment was also performed in 2001. The survey and assessment identify potential contaminating activities in the watershed and assess their impact on the raw and treated water quality. Lopez Lake and Lopez Terminal Reservoir were found to be the most vulnerable to wastewater generation at the Lopez Recreation Area, livestock near the reservoirs, and a roadway that bisects the Terminal Reservoir. To date, these activities have not adversely impacted the WTP treated water quality. A copy of the survey or assessment can be found at the San Luis Obispo County Public Works Department, County Government Center, Room 207, San Luis Obispo, CA 93408. You may also request a summary of the assessment be sent to you by contacting Kurt Souza, CDPH Regional Engineer, at 805-566-1326 or John Beaton, Water Quality Manager, at 805-781-5111.



Removal of a 24" valve on Lopez Drive this past April.

The County routinely monitors for many more chemicals than are listed in these tables. The tables list drinking water contaminants that were detected in 2012, unless otherwise noted. The presence of these contaminants in water does not necessarily indicate that the water poses a health risk. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, although representative, may be more than one year old. For questions about this data, contact John Beaton, Water Quality Manager, at (805) 781-5111 or email JBeaton@co.slo.ca.us

Regulated Contaminants with Primary MCL, MRDL, TT, or RAL			Lopez Water Treatment Plant		Delivered (Lopez and State Water)		Potential Source of Contamination
Contaminant (Reporting units)	MCL, MRDL, TT, or RAL	PHG (MCLG) or [MRDLG]	Range	Average	Range	Average	
Filtration Performance (b)							
Turbidity (NTU)	TT = 95% of samples each month ≤ 0.1 NTU	-----	99.4% (lowest %)				Soil runoff.
	TT = 1 NTU	-----	0.123 (maximum)				
Microbiological Contaminants							
Total Coliform Bacteria (MPN/100mL)	Not to exceed 5.0% of monthly samples positive (a)	(0)			0% - 2.00% (a, d)	0.17% (a)	Naturally present in the environment.
Heterotrophic Plate Count (CFU/mL)	TT = adequate disinfection, <500	-----	<1 - 17	1.5	<1 - 240 (a)	<1	Naturally present in the environment.
Inorganic Contaminants							
Aluminum (ppm)	1	0.6	ND - 0.032	0.01	ND - 0.085	0.03	Erosion of natural deposits; residue from some surface water treatment processes.
Arsenic (ppb)	10	0.004		2.8		2.2	Erosion of natural deposits, runoff from orchards; glass and electronics production.
Fluoride (ppm)	2.0	1.0		0.36		0.25	Erosion of natural deposits.
Radioactive Contaminants							
Gross Alpha Particle Activity (pCi/L)	15	-----	ND - 1.93 (2005)	0.8 (2005)		NA (g)	Erosion of natural deposits.
Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors							
Total Trihalomethanes (ppb)	80 (LRAA)	-----			26.7 - 50.4 (a, c)	36.7 (a, c)	Byproduct of drinking water disinfection.
Haloacetic Acids (ppb)	60	-----			14.6 - 29.0 (a, c)	27.7 (a, c)	Byproduct of drinking water disinfection.
Chlorine (ppm)	MRDL = 4.0 as Cl ₂ (e)	MRDL = 4.0 as Cl ₂	1.33 - 3.78	2.09	1.62 - 2.18 (a, c)	1.99 (a, c)	Drinking water disinfectant added for treatment.
Chlorite (ppm)	1.0 (delivered and distribution avg.)	0.05			0.410 - 0.653 (a)	0.547 (a)	Byproduct of drinking water disinfection.
Chlorate (ppb)	RAL = 800	-----	230 - 569	313	160 - 587 (a)	242 (a)	Byproduct of drinking water disinfection.
Chlorine Dioxide (ppb)	MRDL=800 as ClO ₂	[800]	<100 - 187	<100	20 - 270	153	Drinking water disinfectant added for treatment.
Regulated Contaminants with Secondary MCLs							
Aluminum (µg/L)	200	-----	ND - 32	11	ND - 85	30	Erosion of natural deposits; residue from some surface water treatment processes.
Chloride (mg/L)	500	-----		25.6		38.8	Runoff/leaching from natural deposits.
Color (CU)	15	-----		3		2	Naturally occurring organic materials.
Copper (ppm)	1.0	-----		0.22		0.078	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Odor - Threshold (TON)	3	-----	1.0 - 4.8 (f)	2.4	1.0 - 4.5 (f)	1.9	Naturally occurring organic materials.

Contaminant (reporting units)	MCL	PHG (MCLG) or [MRDLG]	Lopez WTP		Delivered		Potential Source of Contamination
			Range	Average	Range	Average	
Regulated Contaminants with Secondary MCLs (Continued)							
Specific Conductance (µS/cm)	1600	-----		695		638	Runoff/leaching from natural deposits.
Sulfate (mg/L)	500	-----		104		92	Runoff/leaching from natural deposits; seawater influence.
Distribution Turbidity (NTU)	5 NTU	-----			0.05 - 0.80	0.08	Soil runoff.
Total Dissolved Solids (mg/L)	1000	-----		460		420	Runoff/leaching from natural deposits; seawater influence.
Contaminants with No MCLs							
Alkalinity as CaCO ₃ (ppm)	-----	-----		240		180	Runoff/leaching from natural deposits; seawater influence.
Calcium (ppm)	-----	-----		70		55	Runoff/leaching from natural deposits; seawater influence.
Hardness as CaCO ₃ (ppm)	-----	-----		320		260	Generally found in ground and surface water.
Magnesium (ppm)	-----	-----		35		31	Runoff/leaching from natural deposits; seawater influence.
pH	-----	-----		8.23		8.22	Runoff/leaching from natural deposits; seawater influence.
Sodium (ppm)	-----	-----		27		38	Runoff/leaching from natural deposits; seawater influence.

FOOTNOTES

- (a) Distribution system samples
- (b) Combined filter effluent turbidity monitoring is used as an indicator of filtration performance.
- (c) Compliance is based on the running annual average of samples.
- (d) Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.
- (e) The MRDL for chlorine is based on a running annual average of distribution system samples.
- (f) Increases in odor have been associated with algae blooms in Lopez Lake and Terminal Reservoir. Algae blooms are controlled with algaecides and odors are reduced by treating with powder activated carbon.
- (g) Delivered gross alpha was estimated to be 1.7 pCi/L based on a State Water value of 4 pCi/L and a Lopez WTP value of 0.8 pCi/L.

KEY TERMS

CFU/ml - Colony Forming Units per milliliter

CU - Color Units

MCL - Maximum Contaminant Level. The highest level of a contaminant that is allowed in 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 United States Environmental Protection Agency.

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 Analyzed

ND - Not Detected. Contaminant is not detectable at testing limit.

NTU - Nephelometric Turbidity Unit

pCi/L - picoCuries per liter (a measure of radioactivity)

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 Environmental Protection Agency.

ppb - parts per billion, or micrograms per liter (µg/L)

ppm - parts per million, or milligrams per liter (mg/L)

Primary MCL - Maximum contaminant level for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible.

LRAA - Locational Running Annual Average. An average of quarterly samples from a particular monitoring location for a period of one year.

RAL - Regulatory Action Level. The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Secondary MCLs - Maximum contaminant level for contaminants to protect the taste, odor, or appearance of the drinking water. Contaminants with secondary MCLs do not affect health at the MCL levels.

TON - Threshold Odor Number

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

µS/cm - microsiemens per centimeter (unit of specific conductance of water)

USEPA - United States Environmental Protection Agency