

PUBLIC WORKS



SAN LUIS OBISPO COUNTY

County of San Luis Obispo Department of Public Works Lopez Project 2009 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 de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

2009 Water Statistics (million gallons)

Delivered Water	1996.6
State Water	544.83
Average Daily Distribution Demand	5.47
Downstream Release	1303.6



WATER CONSERVATION

We would like to emphasize the importance of water conservation. There may be times when the Lopez Water Treatment Plant (WTP) flows will be reduced or interrupted for maintenance. When there is a "dry" year, reservoir levels are impacted. Please help us and do your part to conserve water. Thank you!

YOUR WATER SUPPLY

Your water comes from a 67 square mile watershed which drains into Lopez Lake, located ten miles east of the City of Arroyo Grande. Lopez Lake has a total capacity of 49,200 acre-feet. Water from the lake is piped three miles to a terminal reservoir. The water remains in the terminal



A good watershed protection program minimizes potential contaminating activities. This photograph was taken of Vasquez Arm at Lopez Lake.

reservoir for a period of time to minimize the potential for viral contamination from human contact and to aid particle settling prior to filtration and chlorination at the Lopez Water Treatment Plant (WTP). The Lopez WTP is able to treat 6.7 million gallons per day and provides drinking water for Arroyo Grande, Grover Beach, Pismo Beach, Oceano Community Services District, County Service Area 12, and the Avila Beach Community Services District.

Some of these agencies supplement their Lopez and well water supplies with State Water. The County delivers State Water to these agencies through the Lopez distribution system. State Water comes from northern California near Mount Shasta and from the Sacramento Delta area. This water is treated at a different facility in northeast San Luis Obispo County.

The County samples Lopez Lake, Terminal, WTP, and the distribution system on a regular basis and has the water samples analyzed for regulated and unregulated contaminants by a California-certified analytical laboratory. The laboratory results are reviewed and evaluated relative to the California Drinking Water Primary and Secondary Maximum Contaminant Level (MCL) standards. The laboratory results are then submitted to the California Department of Public Health (CDPH).

In June of 2001, an assessment was completed of Lopez Lake and Terminal Reservoir which included a review of water system files and previous watershed survey reports prepared in 1996 and 2001. The assessment was reevaluated in 2005. Field surveys were conducted to locate and assess the vulnerability of the surface water sources to possible contamination. The surface water sources at Lopez Lake and Terminal were found to be most vulnerable to the following activities for which no associated contaminants have been detected: wastewater generation, livestock near the reservoir, and a roadway. A copy of the assessment is available at: County of San Luis Obispo, Department of Public Works, 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, Regional Engineer at CDPH, at 805-566-1326 or John Beaton, Water Quality Manager, at 805-781-5111.

The County routinely monitors for many more chemicals than is listed in this table. The tables list all of the drinking water contaminants that were detected in 2009, 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.

Contaminant (reporting units)	MCL	PHG (MCLG)	Level Found	Violation	Potential Source of Contamination		
Filtration Performance							
Turbidity (NTU)	TT = 1NTU	----	0.15	No	Surface water runoff		
	TT = 95% of samples ≤ 0.1 NTU	----	99.5	No			
Lopez WTP							
Contaminant (reporting units)	MCL	PHG (MCLG) or [MRDLG]	Range	Average	Range	Average	Potential Source of Contamination
Microbiological Contaminants							
Total Coliform Bacteria (MPN/100mL) (Total Coliform Rule)	> 5.0% of monthly samples are positive	(0)		0%	ND—1.6% (a, d)	0.16% (a)	Naturally present in the environment
Turbidity (NTU)	TT = 1NTU	----	0.018—0.15(b)	0.029 (b)	0.04—1.4 (a)	0.10 0.09 (a)	Surface water runoff
Heterotrophic plate count (CFU/mL)	TT = adequate disinfection	(0)	ND—1	ND	ND—115 ND—310 (a)	4 9 (a)	Naturally present in the environment
Inorganic Contaminants							
Aluminum (ppm)	1	0.6		ND	ND—0.100	ND	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	10	0.004		2.7		2	Erosion of natural deposits
Fluoride (ppm)	2.0	1.0		0.397		0.307	Erosion of natural deposits
Radioactive Contaminants							
Gross Alpha Particle Activity (pCi/L)	15	----	ND - 1.93 (2005)	0.8 (2005)		NA	Erosion of natural deposits
Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors - FEDERAL RULE							
Total Trihalomethanes (ppb)	RAA = 80	----			21—27 20—41(a, c)	24 34 (a, c)	By-product of drinking water disinfection.
Haloacetic Acids (ppb)	RAA = 60	----	10—16	13	10—12 10—38.4 (a, c)	11 17 (a, c)	By-product of drinking water disinfection.
Total Chlorine Residual (ppm)	MRDL = 4.0 as Cl ₂	[4]	0.48—5.2 (e)	2.2	0.60—4.4 (e) 0.85—3.2(a, c)	2.3 2.4 (a, c)	Drinking water disinfectant added for treatment.
Chlorite (ppm)	1.0	0.05	ND—0.98	0.72	0.28—0.74 ND—0.69 (a)	0.54 0.49 (a)	Byproduct of drinking water disinfection.
Chlorate (ppb)	RAL = 800	----	190—510	310	130—360 (a)	170 230 (a)	Byproduct of drinking water disinfection.
Chlorine Dioxide (ppb)	MRDL = 800 as ClO ₂	[800]	ND—420	ND	ND—440 (a)	ND 160 (a)	Drinking water disinfectant added for treatment.
Detection of Contaminants with a Secondary Drinking Water Standard							
Aluminum (ppb)	200	----		ND	ND—100	ND	Residue from some surface water treatment processes
Chloride (ppm)	500	----	24.9—26.1	25.5	40.3—43.4	41.8	Runoff/leaching from natural deposits
Color (CU)	15	----		1		3	Naturally occurring organic materials
Odor – Threshold (TON)	3	----	ND—6 (f)	2	1—3 1—6 (a, f)	1.7 1.6	Naturally occurring organic materials
Specific Conductance (µS/cm)	1600	----	700—710	705	690—700	700	Runoff/leaching from natural deposits

Contaminant (reporting units)	MCL	PHG (MCLG) or [MRDLG]	Lopez WTP		Delivered		Potential Source of Contamination
			Range	Average	Range	Average	
Detection of Contaminants with a Secondary Drinking Water Standard (Continued)							
Sulfate (ppm)	500	-----	107—111	109	101—103	102	Runoff/leaching from natural deposits
Turbidity (NTU)	5	-----	0.018—0.15(b)	0.029 (b)	0.04—1.4(a)	0.10 0.09(a)	Soil Runoff
Total Dissolved Solids (ppm)	1000	-----		450	410—450	430	Runoff/leaching from natural deposits
Detection of Contaminants without a Drinking Water Standard							
Alkalinity as CaCO ₃ (ppm)	-----	-----	250—280	270	160—250	220	Runoff/leaching from natural deposits; seawater influence
Calcium (ppm)	-----	-----	67—68	68	55—61	58	Runoff/leaching from natural deposits; seawater influence
Hardness as CaCO ₃ (ppm)	-----	-----	320—330	330	190—370	260	Generally found in ground and surface water
Magnesium (ppm)	-----	-----		39	33—34	34	Runoff/leaching from natural deposits; seawater influence
pH	-----	-----	8.07—8.29	8.18	8.16—8.26	8.21	Runoff/leaching from natural deposits; seawater influence
Sodium (ppm)	-----	-----	28—29	29	38—40	39	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 computed quarterly.
- (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 total chlorine is based on an annual running average in the distribution system. The distribution system did not exceed the MRDL for total chlorine.
- (f) **In August, there was an increase in odor due to the presence of geosmin in the source water. Geosmin is an organic compound that may be produced from cyanobacteria (blue-green algae) or actinobacteria, both of which may be present in surface water sources. The odor was reduced to acceptable levels by treating the water with activated carbon.**

KEY TERMS

CFU/ml - Colony Forming Units per milliliter

CU - color units

CA-ELAP— California Environmental Laboratory Accreditation Program

LI - Langelier Index; Noncorrosive = Any positive value, Corrosive = Any negative value

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 ($\mu\text{g/L}$)

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

Primary Drinking Water Standards - MCLs 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.

RAA (Running Annual Average) - An arithmetic average of all samples is computed quarterly. This quarterly average is then averaged against the previous three quarters worth of data to provide an annual running average. The highest running average over a twelve month period is used for compliance.

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

Secondary Drinking Water Standards - MCLs for contaminants to protect the taste, odor, or appearance of the drinking water. Contaminants with SDWSs 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.

$\mu\text{S/cm}$ - micromhos per centimeter (unit of specific conductance of water)

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.

- *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 USEPA and the California Department of Public Health (CDPH) prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water which must 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 <http://www.epa.gov/safewater/lead>.

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, 1-800-426-4791.

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 County of San Luis Obispo Department of Public Works.

WE'RE ON THE WEB!

WWW.SLOCOUNTYWATER.ORG