County of San Luis Obispo
Department of Public Works
Lopez Project
2011 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 informacíon muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.

2011 Water Statistics
(million gallons)

Produced at LWTP	1580
State Water	576
Average Daily Delivered	5.91

WATER CONSERVATION

Because we live in an arid part of California and because this last rain season has been a relatively dry one, we would like to emphasize the importance of water conservation. This becomes especially true if there are several rainy seasons below normal precipitation levels in a row. Please help us and do your part to conserve water. Thank you!

YOUR WATER SUPPLY

A good watershed protection program minimizes potential contaminating activities. This photograph is of the Lopez Terminal Reservoir.

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 viral contamination from human contact in Lopez Lake.

A major upgrade to the WTP was completed in 2007. The WTP is able to treat and deliver up to 6.7 million gallons of water per day to Arroyo Grande, Grover Beach, Pismo Beach, Oceano Community Services District, and County Services Area 12. Some of these communities supplement Lopez water with water from wells and State water.

State water originates in Northern California near Mount Shasta and the Sacramento Delta area. It is treated at a plant near Polonio Pass in northeastern San Luis Obispo County, piped to the Lopez WTP and delivered through the Lopez water distribution system.

The County samples Lopez Lake, Lopez Terminal Reservoir, the Water Treatment Plant, and the distribution system on a regular basis. Samples are analyzed on site, at the County's State certified lab, or at a certified commercial laboratory. Analyses include those for regulated and unregulated contaminants as well as operational parameters which help us to optimize the treatment process. Analysis results are reviewed and compared to State and Federal primary and secondary drinking water standards. Regulatory compliance analysis results are reported to the California Department of Pubic Health (CDPH).

A project is planned for the upcoming fiscal year to install security fencing along the entire property boundary that encompasses the Lopez Water Treatment Plant and the Lopez Terminal Reservoir. Approximately 12,000 feet of fencing will be installed to secure the site. The fencing improvements will help reduce the risk from terrorist attack and/or trespassers who could potentially contaminate the drinking water system.

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.

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 2011, 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 (MCLS)	Level Found	Violation?	Potential Source of Contamination
Regulated Contaminants with Primary MCLs, MRDLs, TTs, or Action Levels: Filtration Performance					
Turbidity (NTU)	TT = 1NTU	-----	0.090	No	Surface water runoff
	TT = 95% of samples ≤ 0.1 NTU	-----	100%	No	

			Lopez WTP		Lopez WTP + State Water		
Contaminant (reporting units)	**MCL or [MRDL]**	**PHG (MCLG) or [MRDLG]**	**Range**	**Average**	**Range**	**Average**	**Potential Source of Contamination**
Regulated Contaminants with Primary MCLs, MRDLs, TTs, or Action Levels: Microbiological Contaminants							
Total Coliform Bacteria (MPN/100mL)	>5.0% of monthly samples are positive	(0)			ND-2.00% (a, d)	0.30% (a)	Naturally present in the environment
Turbidity (NTU)	Filter Effluent TT = 1NTU	-----	0.019-0.090 (b)	0.032			Soil runoff
Heterotrophic plate count (CFU/mL)	TT = adequate disinfection, <500	-----	ND-21	1.9	ND-240 (a)	5.0 (a)	Naturally present in the environment
Regulated Contaminants with Primary MCLs, MRDLs, TTs, or Action Levels: Inorganic Contaminants							
Aluminum (ppm)	1	0.6			ND-0.04	0.02	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	10	0.004		2.2		1.7	Erosion of natural deposits, runoff from orchards; glass and electronics production wastes
Fluoride (ppm)	2.0	1.0		0.35		0.29	Erosion of natural deposits
Regulated Contaminants with Primary MCLs, MRDLs, TTs, or Action Levels: Radioactive Contaminants							
Gross Alpha Particle Activity (pCi/L)	15	-----	ND - 1.93 (2005)	0.8 (2005)			Erosion of natural deposits
Regulated Contaminants with Primary MCLs, MRDLs, TTs, or Action Levels: Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors							
Total Trihalomethanes (ppb)	LRAA = 80	-----			25.1 - 35.2 (a, c)	32.0 (a, c)	By-product of drinking water disinfection
Haloacetic Acids (ppb)	LRAA = 60	-----			18.2—28.2 (a, c)	24.2 (a, c)	By-product of drinking water disinfection
Chlorine (ppm)	[4.0 as Cl_2] e	[4.0 as Cl_2]	Total: 1.6-3.0 Free: 2.0-2.1	Total: 2.1 Free: 2.1	Total: 0.8-3.3 (a, c) Free: 1.0-3.2 (a, c)	Total: 2.0 (a, c) Free: 2.1 (a, c)	Drinking water disinfectant added for treatment
Chlorite (ppm)	1.0 (delivered and distribution avg.)	0.05	0.44-0.96 (f)	0.75 (f)	0.36-0.77 (a)	0.56 (a)	By-product of drinking water disinfection
Chlorine Dioxide (ppb)	[800 as ClO_2]	[800]	0-368	67	0-135	52	Drinking water disinfectant added for treatment
Regulated Contaminants with Secondary MCLs							
Aluminum (µg/L)	200	-----	ND-35	5	ND-44	23	Erosion of natural deposits; residue from some surface water treatment processes
Chloride (mg/L)	500	-----		23.9		22.3	Runoff/leaching from natural deposits
Color (Color Units)	15	-----		3		3	Naturally occurring organic materials
Copper (ppm)	1.0	-----		0.23		0.07	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Odor - Threshold (TON)	3	-----	1.3-10 (g)	2.3	1.3-4.0	1.8	Naturally occurring organic materials

			Lopez WTP		Lopez WTP + State Water		
Contaminant (reporting units)	**MCL**	**PHG (MCLG) or [MRDLG]**	**Range**	**Average**	**Range**	**Average**	**Potential Source of Contamination**
Detection of Contaminants with a Secondary Drinking Water Standard (Continued)							
Specific Conductance (µS/cm)	1600	-----		662		555	Substances that form ions when in
Sulfate (mg/L)	500	-----		98		81	Runoff/leaching from natural deposits; industrial wastes
Distribution Turbidity (NTU)	5	-----			0.05-0.33	0.08	Soil runoff
Total Dissolved Solids (mg/L)	1000	-----		390		320	Runoff/leaching from natural deposits
Detection of Contaminants without a Drinking Water Standard							
Alkalinity as $CaCO_3$ (ppm)	-----	-----	210-250	220	160-200	180	Runoff/leaching from natural deposits; seawater influence
Calcium (ppm)	-----	-----		60		48	Runoff/leaching from natural deposits; seawater influence
Hardness as $CaCO_3$ (ppm)	-----	-----		290	230-260	240	Generally found in ground and surface water
Magnesium (ppm)	-----	-----		34		27	Runoff/leaching from natural deposits; seawater influence
pH	-----	-----	8.11-8.12	8.12	7.91-8.29	8.14	Runoff/leaching from natural deposits; seawater influence
Sodium (ppm)	-----	-----		27		26	Runoff/leaching from natural deposits; seawater influence
Detection of State Contaminants with a Notification Level							
Chlorate (ppb)	NL = 800	-----	110-545	331	120-489 (a)	244 (a)	By-product of drinking water disinfection

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 an running annual average in the distribution system.
(f) Concentration of chlorite taken at the Lopez Water Treatment Plant before it is blended with State Water and entering the distribution system. Maximum concentration in the distribution system was below MCL.
(g) Increases in odor have been associated with algae blooms. During times of increased algae blooms and odors the algae is controlled with algaecides and the odor is reduced to acceptable levels by treating water with powder activated carbon.

KEY TERMS

CFU/ml - Colony Forming Units per milliliter
LRAA (Locational Running Annual Average) - At a given site, the average of the current quarter and the three previous quarterly results.
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.
ND (Not Detected) - Contaminant is not detectable at testing limit.
NL (Notification Level) - Notification levels are health-based advisory levels for chemicals in drinking water that lack MCLs. When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply.
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 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.
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.
µS/cm - microsiemens per centimeter (unit of specific conductance of water)
USEPA—United States Environmental Protection Agency

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. CDPH 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 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.

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