

Santa Barbara Water

June 2010



City of Santa Barbara Annual Water Quality Report

Water Treatment Plant Improvements

High Quality Drinking Water – A Tradition

The Cater Water Treatment Plant was constructed in 1964 to treat water from Lake Cachuma for the residents of Santa Barbara. Over the years it has been expanded to also treat water from Gibraltar Reservoir, and to treat Cachuma water for Montecito, Summerland and Carpinteria. Currently chlorine is added at the beginning of the treatment process to condition the water so that organic matter is filtered out. Chlorine is also added at the end of the treatment process to provide a lasting disinfectant to keep bacteria from growing in the water.

New Water Regulations

Recent changes in regulations set by the U.S. Environmental Protection Agency (EPA) require that the City change the way it treats our drinking water. The EPA has developed a stricter standard for disinfection by-products – chemical compounds that are formed when chlorine reacts with organic materials in the water.

Ozone for Better Water Treatment

To comply with the new EPA regulations, the City will switch to using ozone at the beginning of the water treatment process. Ozone is more effective at conditioning water to remove organic matter.

Since the treated water contains less organic matter, fewer disinfection by-products are formed.

Ozone has been used in water treatment for over 100 years. Today there are over 400 water treatment plants in the United States using ozone. The construction costs for the ozone generation facility, ozone contactor (where ozone is mixed with water), and other related plant improvements are anticipated to be \$20 million. A low interest loan will provide the funds for this project. The loan will be repaid from water rate revenue. The project is scheduled to begin in 2011.



Cater Water Treatment Plant, located in the San Roque foothills



Lake Cachuma, Cater's main water source



Special Info Available

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those who: are undergoing chemotherapy, have undergone organ transplants, have HIV/AIDS or other immune system disorders, or are very old or young can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water.

*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 EPA Safe Drinking Water Act Hotline at 1-800-426-4791 or www.epa.gov/safewater/.*

Safe Drinking Water Hotline and Web Site

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 EPA Safe Drinking Water Act Hotline at 1-800-426-4791 or visiting their website at www.epa.gov/safewater/.

Drinking Water Treatment Regulations

The City gets most of its drinking water from Lake Cachuma and Gibraltar Reservoir. A portion of the City's water also comes from wells. As water travels over 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 the water source include:

- Microbial contaminants such as bacteria and viruses that may come from wildlife or human activity.
- Inorganic contaminants such as salts and metals that can be naturally-occurring or result from human activities.
- Radioactive contaminants, which can be naturally-occurring.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm-water run-off, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes, petroleum production and use, or agricultural applications and septic systems.

To ensure safe drinking water, federal and state regulations limit the amount of certain contaminants in public water systems. Regulations also establish limits for contaminants in bottled water to provide protection for public health.

In 2009, as in previous years, City of Santa Barbara water met all primary state and federal standards for drinking water. All of the drinking water that comes from Lake Cachuma and Gibraltar Reservoir is treated at the Cater Water Treatment Plant before being distributed to customers. Those who have questions about water quality may call the water department in their community and ask for a copy of their Consumer Confidence Report, such as this.

State of the Water Supply



Gibraltar Reservoir is one of the City of Santa Barbara's main sources of water.

Conservation is one of many issues being studied to update the City's Long Term Water Supply Program. The update will assess the City's many supply sources, anticipated demand, and opportunities to boost water conservation and use of recycled water. For more information, visit: SantaBarbaraCA.gov/water or call 564-5460.



For Water Wise Gardening in Santa Barbara County website and CD visit: SantaBarbaraCA.gov/water

Many people wonder how the statewide drought, which has reduced State Water availability, has affected Santa Barbara. Fortunately, the City currently has very limited demand for State Water. Our primary water supply is Lake Cachuma, which is a multi-year storage facility that reduces the impact of periodic dry years. The Gibraltar Reservoir is another important water source. Gibraltar and

Cachuma filled completely in 2008 and the moderate El Niño conditions of 2010 were enough to fill Gibraltar and almost fill Cachuma again. Our water supply is in good shape, but we are always just a few years away from another potential drought. This is why water conservation is so important. Water saved this year is available for use in future years if local conditions turn dry again.

Your Water Softener Setting

The City's surface water at Cater Water Treatment Plant has a hardness range of 20 to 25 grains per gallon. The City's groundwater supplies have a hardness range of 12 to 40. One grain per gallon equals 17.1 milligrams per liter.

Radon

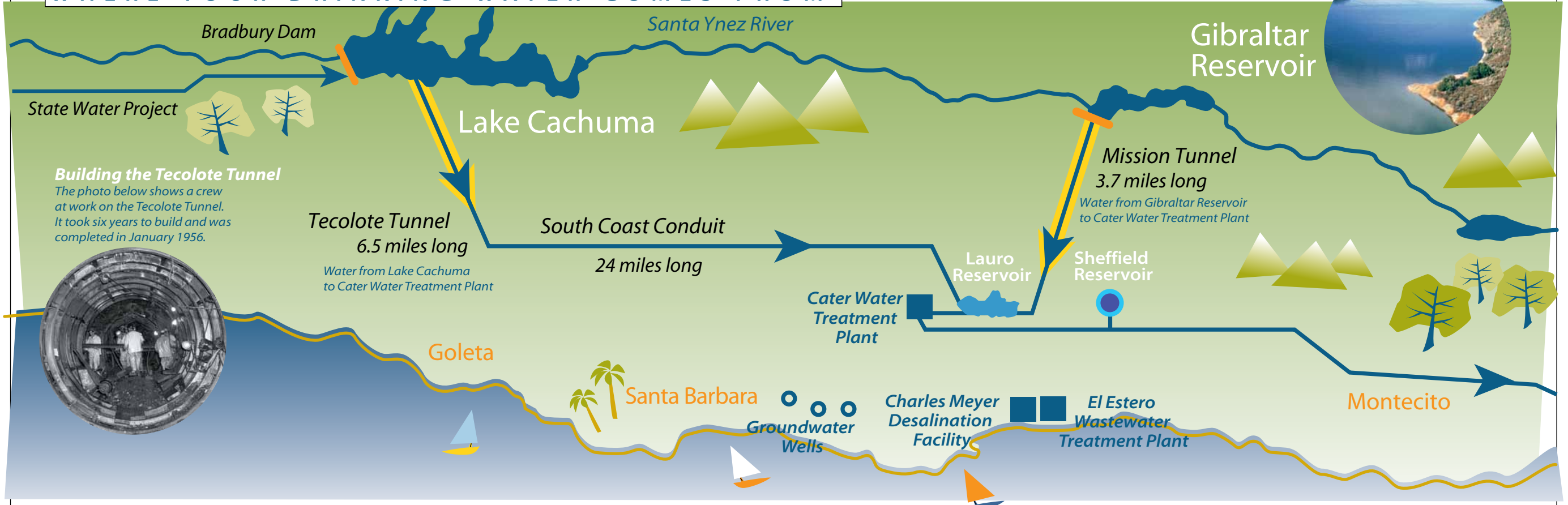
Radon is a radioactive gas that you can't see, taste, or smell that is found throughout the United States. It occurs naturally in certain rock formations. As a result, radon can be found in Santa Barbara's groundwater. Groundwater is a small part (7.6%) of the City's total water supply. Radon has not been detected in the City's surface water. Radon can enter homes through cracks or holes in foundations and floors. Radon can also get indoors when released from tap water. Test your home if you are concerned about radon. Testing is inexpensive and easy. For additional information, call your State radon program 1-800-745-7236, the EPA Safe Drinking Water Act Hotline 1-800-426-4791, or the National Safe Council Radon Hotline 1-800-SOS-RADON.

Limited Potential for Contamination

The City has evaluated the vulnerability of our water supplies to contamination. For potential contaminants at Lake Cachuma, the use of two stroke engines contributes MTBE to the water. Gibraltar Reservoir's remote location, and the restriction of access to the reservoir limit opportunities for contamination. City groundwater supplies are generally located deep beneath the surface. Nonetheless, there is the potential for contaminants from surface sources such as gasoline stations and dry cleaners to reach City water supplies. All water sources are carefully monitored to ensure that pollutants are not present at levels exceeding state and federal standards. For more information, call 568-1008.



WHERE YOUR DRINKING WATER COMES FROM



2009 City Drinking Water Quality Report

Definitions

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 California Environmental Protection Agency.

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 U.S. Environmental Protection Agency.

Maximum Contaminant Level (MCL)

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 are set to protect the odor, taste, and appearance of drinking water.

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.

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.

Regulatory Action Level (AL)

The concentration of a contaminant which, if exceeded, triggers a treatment or other requirements which a water system must follow.

Treatment Technique (TT)

A required process intended to reduce the level of contaminants in drinking water.

Primary Drinking Water Standards (PDWS)

MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Secondary Drinking Water Standards (SDWS)

MCLs for contaminants that effect taste, odor, or appearance of drinking water. Contaminants with SDWS do not affect the health at MCL levels.

Unregulated Contaminant Monitoring Regulations (UCMR)

Data generated by the new UCMR will be used to evaluate and prioritize contaminants on the Drinking Water Contaminant Candidate List, a list of contaminants EPA is considering for possible new drinking water standards. Also known as "State Regulated Contaminants with No MCLs."

Legend

µg/L: Micrograms per liter (parts per billion)

mg/L: Milligrams per liter (parts per million)

ND: Not detected at testing limit

NTU: Nephelometric Turbidity Units

pCi/L: PicoCuries per liter (a measure of radiation)

µmhos/cm: Micromhos per centimeter

DBP: Disinfection By-products

NA: Not applicable or no standard or no data

PRIMARY STANDARDS

Regulated Contaminants with Primary MCLs or MRDLs

Contaminant	Maximum Contaminant Level (MCL)	Public Health Goal	Highest Single Measurement		Samples \leq 0.3 NTU		Major Sources in Drinking Water
			90th % Value	# of Sites Sampled	# of Sites Exceeding Action Level		
Microbiological Contaminants Turbidity (NTU)	NA	TT = 1 NTU TT = 95% of samples \leq 0.3 NTU	0.06		100%		Natural river sediment/soil run-off
Lead/Copper Rule <i>Monitored at the Customer's Tap</i>							
Copper (mg/L)	AL, 1.3	0.3	0.26	31	0		Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (µg/L)	AL, 15	0.2	2.9	31	0		
Disinfection By-products, Disinfectant Residuals, and Disinfection By-product Precursors			System Wide Average		System Wide Range		
Total Trihalomethanes (µg/L)	80	NA	55.1		2.6 - 126		By-product of water disinfection
Haloacetic Acids (µg/L)	60	NA	8.6		ND - 19.0		By-product of water disinfection
Disinfectant - Chlorine as Cl ₂ (mg/L)	MRDLG, 4.0	MRDLG, 4	0.63		ND - 2.60		Drinking water disinfectant added to treatment
Control of DBP Precursors - TOC (mg/L)	MCL	Public Health Goal	Surface Water Average	Surface Water Range	Groundwater Average	Groundwater Range	Various natural and manmade sources. Total Organic Carbon (TOC) has no health effects. However, it provides a medium for the formation of disinfection by-products.
	TT	NA	2.76	2.24 - 3.19	0.36	0.21 - 0.55	
Radioactive Contaminants							
Gross Alpha Particle Activity (pCi/L)	15	MCLG, 0	ND	NA	ND	ND - 3.7	Erosion of natural deposits
Radon (pCi/L)	NA	NA	NA	NA	315	310 - 320	See reporting notice on Radon in this report.
Inorganic Contaminants							
Aluminum (mg/L)	1	0.6	0.08	0.01 - 0.30	0.03	ND - 0.25	Erosion of natural deposits
Arsenic (µg/L)	10	0.004	1.3	1.1 - 3.5	0.5	ND - 1.9	Erosion of natural deposits
Chromium (µg/L)	50	MCLG, 100	1.8	ND - 5.6	4.3	ND - 11.9	Erosion of natural deposits
Fluoride (mg/L)	2.0	1	0.43	0.24 - 0.52	0.36	ND - 0.60	Erosion of natural deposits; discharge from fertilizer & aluminum factories
Nitrate as NO ₃ (mg/L)	45	45	0.37	ND - 1.24	9.95	0.58 - 41.6	Erosion of natural deposits; run-off from fertilizer use
Selenium (µg/L)	50	MCLG, 50	ND	No Range	7.6	No Range	Erosion of natural deposits

State Regulated Contaminants with No MCLs, i.e. Unregulated Contaminants

Contaminant	MCL	Public Health Goal	Surface Water Average	Surface Water Range	Groundwater Average	Groundwater Range	
Boron (µg/L)	Notification Level, 1000	NA	380	No Range	110	70 - 160	
Hexavalent chromium, - Cr VI (µg/L)	NA	NA	ND	NA	0.58	ND - 1.90	Erosion of natural deposits

SECONDARY STANDARDS

Aesthetic Standards Established By the State of California, Department of Health Services. No adverse health affects from exceedence of standards.

Regulated Contaminants with Secondary MCLs

Contaminant	MCL	Public Health Goal	Surface Water Average	Surface Water Range	Groundwater Average	Groundwater Range	
Color (Units)	15	NA	ND	NA	0.25	ND - 7	Naturally-occurring organic materials
Copper (mg/L)	1	NA	0.01	ND - 0.05	0.02	0.001 - 0.09	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron (µg/L)	300	NA	ND	NA	42	ND - 280	Leaching from natural deposits
Manganese (µg/L)	50	NA	0.2	ND - 2.5	62.6	ND - 200	Naturally-occurring organic materials; causes discoloration of water
Methyl-tert-butyl ether (MTBE) (µg/L)	5	NA	ND	NA	1.5	ND - 6.6	Leaking underground gasoline storage tanks; discharge from gasoline and chemical factories
Threshold Odor Number at 60 °C (units)	3	NA	6	2 - 15	9	1 - 20	Naturally-occurring organic materials
Turbidity, Laboratory (NTU)	5	NA	0.12	0.07 - 0.20	0.4	0.09 - 1.23	Soil run-off
Uranium (µg/L)	NA	NA	NA	NA	6.5	5.8 - 7.2	Erosion of natural deposits
Zinc (mg/L)	5	NA	0.01	0.006 - 0.02	0.02	ND - 0.17	Naturally-occurring in trace amounts, but can be detected in soft, acidic water systems
Total Dissolved Solids (mg/L)	1000	NA	651	568-714	810	596 - 1160	Run-off / leaching from natural deposits
Specific Conductance (µmhos/cm)	1600	NA	925	852 - 1044	1156	866 - 1758	Run-off / leaching from natural deposits; seawater influence
Chloride (mg/L)	500	NA	22.2	17.2 - 27.4	100	42.8 - 213	Run-off / leaching from natural deposits; seawater influence
Sulfate (mg/L)	500	NA	268	216 - 300	236	156 - 369	Run-off / leaching from natural deposits

Additional Constituents

pH (units)	NA	NA	8.05	7.80 - 8.22	6.99	6.61 - 7.22	
Total Hardness as CaCO ₃ (mg/L)	NA	NA	398	344 - 430	465	214 - 676	
Total Alkalinity as CaCO ₃ (mg/L)	NA	NA	190	178 - 204	248	200 - 313	
Calcium as Ca (mg/L)	NA	NA	91.3	79.3 - 99.3	123	84 - 162	
Magnesium (mg/L)	NA	NA	40	33 - 48	39	22 - 66	
Sodium (mg/L)	NA	NA	45	39 - 52	67	42 - 100	
Potassium (mg/L)	NA	NA	4.4	4.0 - 4.7	1.8	1.3 - 2.7	

Note: Listed in the table above are substances detected in the City's drinking water. Not listed are more than 135 regulated and unregulated substances that were below the laboratory detection level.



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See inside for the City's Water Quality Report.

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- Receive a free water check-up for your home or business
- Free rain sensor available



For more information, go to SantaBarbaraCA.gov/water or call 564-5460.

En Español

Este informe contiene información muy importante sobre su agua beber.

Tradúzcalo o hable con alguien que lo entienda bien.

Si usted tiene preguntas acerca del agua de la ciudad, por favor llame a Don Montoya, a la oficina de Recursos del Agua, al teléfono (805) 564-5387.

For More Information

Questions on the City's water system, call 805-564-5387.

Questions on water quality, call 805-568-1008.

City of Santa Barbara Board of Water Commissioners meets at 3:00 p.m. on the second Monday of each month. Board sessions are open to the public and are usually held in the Public Works Conference Room, located at 630 Garden Street.

SantaBarbaraCA.gov/water

SANTA BARBARA



Questions on Water
 Call 805-564-5460



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