Santa Barbara Water
June 2012
City of Santa Barbara Annual Water Quality Report

Water Supply News

It's a Dry Year

Because we live in a semi-arid climate it is common to have a dry year. The City's rainfall by May 1st was 11 inches, far below our annual July to June average of 18 inches. One dry year does not mean we have a water shortage, but it reinforces the need to always manage our water supplies to prepare for a prolonged drought.

A Diverse Water Supply

Fortunately, the City has a diverse water supply portfolio. Our primary water supply is Lake Cachuma, which spilled last year and is currently 90% full. Another significant water source is Gibraltar Reservoir, which also filled last year, and is currently near capacity. State Water, groundwater, and recycled water also add to our available water supplies.

The City manages its water supplies to plan for a six-year dry period. When Lake Cachuma stops spilling, we assume we are in the first year of a drought, and begin planning for a prolonged dry weather scenario. We do this by saving water from the various supplies so they'll be available in drought.

Water Conservation All the Time

The City's Water Conservation Program offers incentives and assistance for water conservation. We rely on our customers to conserve water consistently to achieve long-term water savings. In an extended dry period, the City counts on extraordinary water conservation to bridge the gap between water supplies and demand.

The City is grateful to its customers for all they have done to save water. By saving water, we are doing the right thing for Santa Barbara and ensuring water is available for future generations. The City's Water Conservation Program offers many opportunities to reap the benefits of conserving water. For cost effective ways to keep landscape beautiful while managing time and protecting the environment, visit SaveWaterSB.org or 805-564-5460.

Photo: Susanne Joslyn

Fog rolls over the rugged mountains surrounding Lake Cachuma.

Drinking Water Treatment Regulations

Most of the City's drinking water comes from Lake Cachuma and Gibraltar Reservoir. A portion of the City's water also comes from groundwater sources. 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 septic systems and agricultural applications.

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 2011 the City of Santa Barbara's water met all EPA and State drinking water health standards. All of the drinking water that comes from our surface water sources, Lake Cachuma and Gibraltar Reservoir, is treated at Cater Water Treatment Plant before being distributed to customers. This newsletter provides a snapshot of last year's water quality.

Special Info Available

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 (CDC) 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.

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 *USEPA's Safe Drinking Water Hotline* at 1-800-426-4791 or visiting their website at www.epa.gov/safewater/.

The Santa Ynez River is one of the largest rivers on the Central Coast of California.

To ensure the delivery of quality drinking water, free of harmful bacteria, water quality tests are performed weekly at our 36 sample stations located throughout the water system. The results are submitted monthly to the California Department of Public Health. Though low levels of bacteria are considered acceptable, the City is happy to report that in 2011, there were no occurrences of harmful bacteria detected in our drinking water.

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness. Symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from your health care provider.

Limited Potential for Contamination

The City has evaluated the vulnerability of our water supplies to contamination. Gibraltar Reservoir's remote location, and the restriction of access to the reservoir limit opportunities for contamination. Water contact activities at Lake Cachuma are limited. 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 805-568-1008.

Your Water Softener Setting

The City's water has a hardness range of 19 to 24 grains per gallon. One grain per gallon equals 17.1 milligrams per liter.

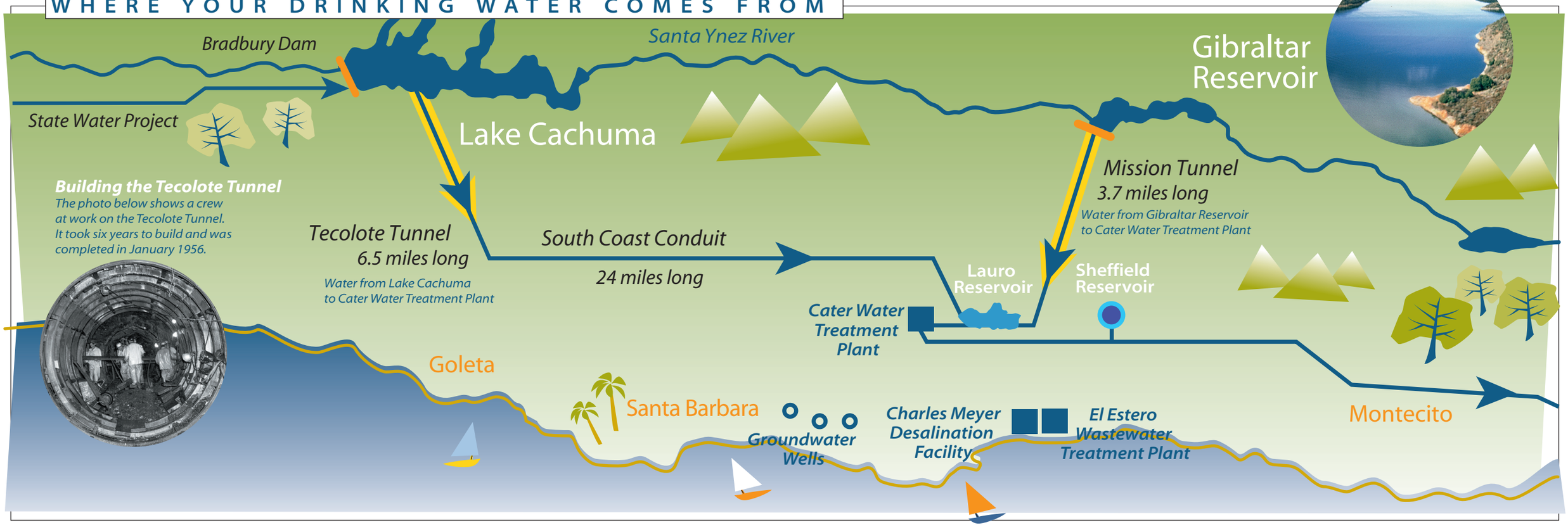
Radon

Radon is a radioactive gas that you cannot 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 (9.16%) 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 Hotline 1-800-426-4791, or the National Safety Council Radon Hotline 1-800-SOS-RADON.

Lead in 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. City of Santa Barbara is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. The City's water lead and copper samples are at low levels. However, if your water has been sitting for a number of days, you can minimize lead exposure before using the water for drinking or cooking, by flushing your tap for 30 seconds. Additionally, 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.

WHERE YOUR DRINKING WATER COMES FROM



2011 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 affect taste, odor, or appearance of drinking water. Contaminants with SDWS do not affect the health at MCL levels.

Notification Level (NL)
Notification levels are health-based levels established by CDPH for chemicals in drinking water that lack MCLs.

Legend

mg/L :	milligrams per liter (parts per million)
µg/L:	micrograms per liter (parts per billion)
µmhos/cm:	micromhos per centimeter
pCi/L :	picoCuries per liter (a measure of radioactivity)
ND:	Not Detected at testing limit
NA:	Not Applicable
NTU:	Nephelometric Turbidity Units
DBP:	Disinfection By-products
TOC:	Total Organic Carbon
RAA:	Running Annual Average

PRIMARY STANDARDS

Regulated Contaminants with Primary MCLs or MRDLs

Microbiological Contaminants	MCL	PHG	Highest Single Measurement		Samples ≤0.3 NTU		Major Sources in Drinking Water
Turbidity (NTU)	TT = 1 NTU TT = 95% of samples ≤0.3 NTU	NA	0.09		100%		Natural river sediment/soil run-off
Lead/Copper Rule			90th % Value	# of Sites Sampled	# of Sites Exceeding Action Level		
Copper (mg/L)	AL, 1.3	0.3	0.26	31	0		Internal corrosion of household water 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	Highest RAA = 47		1.1 - 83.4		By-product of water disinfection
Haloacetic Acids (µg/L)	60	NA	Highest RAA = 12		ND - 33		By-product of water disinfection
Disinfectant - Chlorine as Cl_2 (mg/L)	MRDL, 4.0	MRDLG, 4	0.68		0.11 - 1.63		Drinking water disinfectant added for treatment
	MCL	Public Health Goal	Surface Water Average	Surface Water Range	Groundwater Average	Groundwater Range	
Control of DBP Precursors - TOC (mg/L)	TT	NA	2.47	2.22 - 2.79	0.40	ND - 1.88	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.
Radioactive Contaminants							
Gross Alpha Particle Activity (pCi/L)	15	MCLG, 0	ND	NA	1.2	ND - 3.43	Erosion of natural deposits
Uranium (pCi/L)	20	0.43	ND	NA	1.7	ND - 3.9	Erosion of natural deposits
Inorganic Contaminants							
Aluminum (mg/L)	1	0.6	0.05	0.01 - 0.15	0.02	ND - 0.04	Erosion of natural deposits
Arsenic (µg/L)	10	0.004	0.6	ND - 2.0	0.2	ND - 1.2	Erosion of natural deposits
Chromium (µg/L)	50	MCLG, 100	2.5	ND - 6.4	4.5	1.9 - 10.0	Erosion of natural deposits
Fluoride (mg/L)	2.0	1	0.37	0.31 - 0.42	0.33	0.19 - 0.53	Erosion of natural deposits; discharge from fertilizer & aluminum factories
Nitrate as NO_3 (mg/L)	45	45	ND	NA	7.96	0.62 - 25.1	Erosion of natural deposits; run-off from fertilizer use
Selenium (µg/L)	50	30	ND	NA	1.9	ND - 7.4	Erosion of natural deposits
Volatile Organic Contaminants							
Methyl-tert-butyl ether [MTBE] (µg/L)	13	13	ND	NA	0.9	ND - 4.1	Leaking underground storage tanks; discharge from petroleum and chemical factories

SECONDARY STANDARDS

Aesthetic Standards Established By the State of California, Department of Public Health. No adverse health effects from exceedance of standards.

Regulated Contaminants with Secondary MCLs

	MCL	Public Health Goal	Surface Water Average	Surface Water Range	Groundwater Average	Groundwater Range	
Copper (mg/L)	1.0	NA	0.01	0.01 - 0.02	0.07	0.01 - 0.26	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron (µg/L)	300	NA	15	ND - 135	58	ND - 594	Leaching from natural deposits
Manganese (µg/L)	50	NA	ND	NA	65.1	ND - 213	Naturally-occuring organic materials; causes discoloration of water
Threshold Odor Number at 60 °C (units)	3	NA	6	1 - 12	7	1 - 12	Naturally-occurring organic materials
Turbidity, Laboratory (NTU)	5	NA	0.11	0.05 - 0.52	0.36	0.10 - 0.87	Soil run-off
Total Dissolved Solids (mg/L)	1000	NA	608	514 - 710	783	572 - 1086	Run-off / leaching from natural deposits
Specific Conductance (µmhos/cm)	1600	NA	833	729 - 946	1107	806 - 1655	Substances that form ions when in water; seawater influence
Chloride (mg/L)	500	NA	18	13.4 - 20.9	92.9	25.6 - 184	Run-off / leaching from natural deposits; seawater influence
Sulfate (mg/L)	500	NA	239	198 - 280	217	143 - 312	Run-off / leaching from natural deposits
Zinc (mg/L)	5.0	NA	0.01	0.01 - 0.03	0.03	0.01 - 0.06	Run-off / leaching from natural deposits

CONTAMINANTS WITH NO MCLs

i.e. Unregulated Contaminants

Boron (mg/L)	NL, 1	NA	0.39	NA	0.11	0.077 - 0.16	
Hexavalent chromium, Cr VI (µg/L)	NA	NA	0.021	ND - 0.055	0.63	ND - 1.80	
Additional Constituents							
pH (units)	NA	NA	8.07	7.86 - 8.30	6.96	6.68 - 7.66	
Total Hardness as $CaCO_3$ (mg/L)	NA	NA	371	326 - 410	465	296 - 666	
Total Alkalinity as $CaCO_3$ (mg/L)	NA	NA	193	178 - 210	247	191 - 310	
Calcium (mg/L)	NA	NA	87	76.9 - 93.7	121	82.5 - 158	
Magnesium (mg/L)	NA	NA	38	30.5 - 45.8	40.6	25.9 - 66.0	
Sodium (mg/L)	NA	NA	44	37.7 - 51.4	68.1	41.7 - 100	
Potassium (mg/L)	NA	NA	4.6	2.9 - 19.5	2.08	1.50 - 3.30	
Uranium (µg/L)	NA	NA	ND	NA	5.9	2.8 - 7.5	
Radon 222 (pCi/L)	NA	NA	ND	NA	450	350 - 590	See reporting notice on radon in this report

Note: Listed in the table above are substances detected in the City's drinking water. Not listed are more than 92 regulated and unregulated substances that were below the laboratory detection level.

The state allows us to monitor for some contaminants less than once per year because the concentrations of the these contaminants do not change frequently. Some of our data, though representative, are more than one year old. All data presented in the table above are from 2011, except for the following: Lead and copper monitored at the customer's tap are from 2009, radioactive contaminants are from 2005, 2006, and 2011, and radon 222 is from 2005 and 2010.

City of Santa Barbara
Public Works Department
Post Office Box 1990
Santa Barbara, CA 93102-1990

PRSRT STD
U.S. POSTAGE
PAID
SANTA BARBARA, CA
PERMIT NO. 553

ECRWSS
Postal Customer

Get the latest on Santa Barbara's drinking water.

The City distributes this Annual Water Quality Report to customers as required by federal regulations.

Save Water Now – It's the Right Thing to Do!

- **Rebates available on water-wise plants, irrigation equipment, graywater systems, mulch, clothes washers and more**
- **Free rain shut-off sensors available**
- **Adjust your sprinkler timer's schedule based on the weather – use the landscape watering calculator and watering index**
- **Receive a free water check-up for your home or business**

For more information, go to SaveWaterSB.org or call 805-564-5460.

En Español

Este informe contiene información muy importante sobre su agua potable. 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 805-564-5460.

For More Information

Questions on water quality, call the laboratory analysts at 805-568-1008.

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

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 Water Resources Conference Room, located on the third floor at 619 Garden Street.

On the web: SantaBarbaraCA.gov/water

SANTA BARBARA
water
TODAY • TOMORROW

Questions on Water
Call 805-564-5460

Printed on recycled paper