

# Santa Barbara Water

June 2003



City of Santa Barbara Annual Water Quality Report

## Working to Ensure Water Quality for the City's Future

City staff continues to make improvements in your water system to provide a water supply that meets all water quality standards and meets the needs of customers during normal and emergency situations.

### Currently Under Construction

#### *Cater*

To meet more stringent federal water quality standards, the William B. Cater Water Treatment Plant is currently being upgraded. Construction began on this multi-million dollar upgrade in 2002, and is expected to be complete in 2004. The plant continues to treat water during the construction period, providing high quality water for the citizens of Santa Barbara, Montecito, Summerland and Carpinteria.

#### *Sheffield*

Construction has also begun on the Sheffield Water Quality Project. This project entails removing Sheffield Reservoir, constructing two buried 6.5 million gallon concrete reservoirs, and the creation of a 23-acre public open space. The first phase consists of constructing two temporary reservoirs. Once the temporary reservoirs are completed, the existing uncovered reservoir will be demolished and replaced with two underground reservoirs and the temporary reservoirs will be removed. This project will improve

the water quality for customers throughout the City who are served by the Sheffield Reservoir. Completion of the project is anticipated for mid-2005.

### Groundwater Projects

The Ortega Groundwater Treatment Plant was built in the 1970's, and is in need of a complete overhaul to meet today's strict water quality standards. The plant treats groundwater from four wells located in the

downtown area. These wells are an important part of the City's long-term water supply and were pumped heavily during the drought of the early 1990's, but have not been used much in recent years, as water supplies in Lake Cachuma and Gibraltar Reservoir have been adequate for our customers' needs. Additionally, the City is drilling new wells at Santa Barbara High School and San Roque Park. These wells will play an important role in meeting the City's water demand.



Crews pouring the concrete walls for a new pump station at the William B. Cater Water Treatment Plant.

# State of the Water Supply

## Average Rainfall Year

Last year we reported that drought was not yet a concern, despite the lowest rainfall in over 40 years. This year's rainfall has been near average, but runoff has been low. As a result, we are a little closer to a potential drought situation. The main gauge of drought vulnerability is the amount of water stored in the regional reservoir at Lake Cachuma.

## Water Level of Lake Cachuma

Lake Cachuma can hold up to 188,035 acre-feet (AF) and the water level is expected to drop below 100,000 AF some time this year. (One acre-foot is 326,000 gallons, enough to serve annually about three typical homes in Santa Barbara.) Agencies that take water from Lake Cachuma may start cutting back on deliveries when Lake Cachuma's level is below 100,000 AF as a way of stretching the supply in case dry weather continues. However, we expect to be able to take near normal deliveries as a result of "carryover" water remaining from last year's allotment.

## Multiple Water Sources to Meet Demand

Our plan for meeting demand this year is to take about 8,000 AF from Lake Cachuma and about 5,000 AF from Gibraltar Reservoir. The rest of the anticipated 14,500 AF demand can be met with State Water, water from Mission Tunnel, and recycled water. We will order State Water, to the extent it is available, to help preserve the supply in Lake Cachuma. Groundwater is available to help fill any gaps. We expect these supplies will be sufficient to get us through the next several years, even if a major drought develops. For severe conditions, we have the Charles Meyer Desalination Facility available, which can be re-commissioned when the substantial cost to do so is warranted.

## Use Water Wisely

In summary, it's not yet time to start drastic drought measures, but efficient water use is always a good idea, and it helps us maintain adequate supplies to get through a drought that might develop. The City continues to have an award winning Water Conservation Program. For free information and assistance to help you save water, call the Water Conservation Hotline, at 564-5460, and visit [www.sbwater.org](http://www.sbwater.org).

## Free Water Checkup

Throughout the year the City offers our water customers a free Water Checkup to help you save water and check for leaks. Also included is an evaluation of your irrigation system to make sure it is working efficiently and a suggested irrigation schedule.

To schedule a Water Checkup or for more information on City water supplies and how to save water, call the Water Conservation Hotline at 564-5460. Check out [www.sbwater.org](http://www.sbwater.org) for tips on saving water.



## Limited Potential for Contamination

*The City has evaluated the vulnerability of our water supplies to contamination. For potential contaminants at Lake Cachuma, 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 897-1913.*

# WHERE YOUR DRINKING WATER COMES FROM



**Building the Tecolote Tunnel**  
The photo below shows a crew at work on the Tecolote Tunnel. It took six years to build and was completed in January 1956.



**Building the Mission Tunnel**  
The photo below shows the north entrance to Mission Tunnel. It took 9 years to build and was completed on December 21, 1912.



# 2002 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 disinfectant (chlorine) added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

### Maximum Residual Disinfectant Level (MRDL)

The level of a disinfectant (chlorine) added for water treatment that may not be exceeded at the consumer's tap.

### Regulatory Action Level (AL)

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

### Treatment Technique (TT)

A required process intended to reduce the level of contaminant 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.

### Other Constituents Monitored

This information was collected as part of a federal study to evaluate disinfectants and disinfection by-products.

## Legend

<b>µg/L</b>	Micrograms per liter (parts per billion)
<b>mg/L</b>	Milligrams per liter (parts per million)
<b>g/L</b>	Grams per liter (parts per million)
<b>ND</b>	Not detected at testing limit
<b>NTU</b>	Nephelometric Turbidity Units
<b>pCi/L</b>	Picocuries per liter (a measure of radiation)
<b>µmho/cm</b>	Micromhos per centimeter
<b>NA</b>	Not applicable or no standard

## Cater Water Treatment Plant

SUBSTANCE (Parameter)	Public Health Goal	Maximum Contaminant Level	Range Detected	Reporting Value	Major Sources in Drinking Water
<b>Primary Standards</b>					
<i>Monitored at the Treatment Plant</i>					
Turbidity (NTU)	NA	1	0.02 – 0.08	0.08	Natural river sediment/soil run-off
Fluoride (mg/L)	1	2	0.29 – 0.47	0.34	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Aluminum (µg/L)	600	1000	51 – 233	117	Erosion of natural deposits; residue from some surface water treatment processes
Gross Alpha Particle Activity (pCi/L)	(0)	15	1.6 - 2.9	1.69	Erosion of natural deposits
Beta particles and photon emitters (pCi/L)	(0)	50	1.6 – 4.3	2.68	Decay of natural and manmade deposits
<i>Disinfectants and Disinfection Byproducts (DDBP) Monitored at the Distribution System</i>					
Total Trihalomethanes (µg/L)	NA	80	39.0 – 130	60.8	By-product of drinking water chlorination
Haloacetic acids (µg/L)	NA	60	15 – 112	40.8	By-product of water disinfection
Disinfectant-Free Chlorine Residual (mg/L)	MRDLG as Cl <sub>2</sub> 4.0	MRDL as Cl <sub>2</sub> 4.0	0.10 – 2.70	1.87	Drinking water disinfectant added to treatment
<b>Other Constituents Monitored</b>					
Control of DBP Precursors – TOC (mg/L)	NA	Treatment Requirements	2.59 – 3.22	2.91	Total Organic Carbon (TOC) has no health effects. However, it provides a medium for the formation of disinfection byproducts. Various natural and manmade sources.
Haloacetonitrile - HAN (µg/L)	NA	NA	1.7 – 6.7	4.7	
Chloropicrin - CP (µg/L)	NA	NA	0.0 – 1.2	0.4	
Chloral hydrate - CH (µg/L)	NA	NA	0.0 – 33	7.9	
Total Organic Halides - TOX (µg/L)	NA	NA	50 – 450	178	
Chlorate (g/L)	NA	NA	4.9 – 15	8.9	
<b>UCMR</b>					
Boron (mg/L)	NA	1000 (AL)	280 – 480	340	
Vanadium (µg/L)	NA	50 (AL)	ND – 4.9	2.2	
<b>Lead/Copper Rules</b>					
<i>Monitored at the Customer's Tap</i>					
<i>Number of sites exceeded Action Level = 0</i>					
Copper (mg/L)	0.17	1.3 (AL)	ND – 0.23	0.031	Copper and Lead: Internal corrosion of household plumbing systems and erosion of natural deposits.
Lead (µg/L)	2	15 (AL)	ND – 2.0	0.20	Copper: leaching from wood preservatives Lead: discharges from industrial manufacturers

## Secondary Standards

**Secondary (Aesthetic) Standards Established By the State of California, Department of Health Services. No adverse health affects from exceedance of standards.**

SUBSTANCE (Parameter)	Public Health Goal	Maximum Contaminant Level	Range Detected	Reporting Value	Major Sources in Drinking Water
<i>Monitored at the Treatment Plant</i>					
Threshold Odor Number at 60 °C	NA	3	5 – 25	12	Naturally occurring organic materials
Chloride (mg/L)	NA	500	18 – 22	19	Run-off/leaching from natural deposits; seawater influence
Sulfate (mg/L)	NA	500	238 – 323	266	Run-off/leaching from natural deposits
Specific Conductance (µmhos/cm)	NA	1600	793 – 975	840	Run-off/leaching from natural deposits; seawater influence
Total Dissolved Solids (mg/L)	NA	1000	536 – 733	632	Run-off/leaching from natural deposits
pH (units)	NA	NA	7.7 – 8.3	8.1	
Total Hardness as CaCO <sub>3</sub> (mg/L)	NA	NA	342 – 433	369	
Total Alkalinity as CaCO <sub>3</sub> (mg/L)	NA	NA	164 – 205	171	
Calcium as Ca (mg/L)	NA	NA	74 – 94	79	
Magnesium (mg/L)	NA	NA	32 – 55	41	
Sodium (mg/L)	NA	NA	25 – 53	37	
Potassium (mg/L)	NA	NA	1.8 – 2.8	2.1	

## General Information and additional monitoring

**Water Quality Report:** Listed in the table above are substances detected in the City's drinking water. Not listed are more than 125 regulated and unregulated substances that were below the laboratory detection level. The City has received an extension to comply with the new federal drinking water standards for disinfection by-products. Nonetheless, the City is currently meeting the new standards.

**Surface Water:** All water open to the atmosphere and subject to surface runoff such as lake, reservoir and river. Lake Cachuma and Gibraltar Reservoir constitute the City's surface water supplies, which are treated at the William B. Cater Water Treatment Plant.

**For Water Softeners:** The City's water has a hardness range of 20 to 26 grains per gallon. One grain per gallon equals 17 milligrams per liter.



## Regulations On Drinking Water Treatment

The City of Santa Barbara gets most of its drinking water from Lake Cachuma and Gibraltar Reservoir. Occasionally, well water is also supplied to City water customers. 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 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
- Pesticides and herbicides, which 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 that are byproducts of industrial processes and petroleum production and use.

- Radioactive contaminants which can be naturally occurring or be the results of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, federal and state regulations limit the amount of certain contaminants in public water systems. Regulations also establish limits for contaminants in bottled water that must provide protection for public health.

In 2002, as in previous years, the City of Santa Barbara water met all primary state and federal standards for drinking water. All of the water from Lake Cachuma and Gibraltar Reservoir is treated at the William B. Cater Treatment Plant before being distributed to customers. If you are in another community and have questions about the water quality, call their water department and ask for a copy of their Consumer Confidence Report.

## 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 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 Safe Drinking Water Hotline 1-800-426-4791 or [www.epa.gov/safewater/](http://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's Safe Drinking Water Hotline at 1-800-426-4791 or by visiting their website at [www.epa.gov/safewater/](http://www.epa.gov/safewater/).

## 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 805.897.1910.*

*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 held in the Public Works Conference Room, located at 630 Garden Street.*

SANTA BARBARA



Questions on Water  
Call 805-564-5460

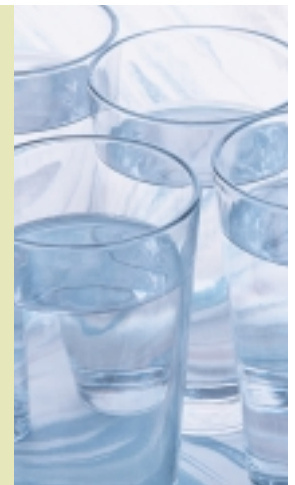


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## City Drinking Water Tested Free of Bacteria

*For the third year in a row, Coliform bacteria were not detected in any of the thousands of samples of City water that were collected from the City's distribution system during 2002. Each week dozens of samples are analyzed to determine whether there are Coliform bacteria in City water supplies. Coliform bacteria are everywhere and do not necessarily cause illness but, when present in large numbers, are an indicator that the water*

*may be susceptible to contamination by disease causing organisms. Because Coliform bacteria are so common, we anticipate that a small number will be detected on a routine basis and will not be a cause for concern. The fact that not one single sample contained Coliform during 2000, 2001 and 2002 is an impressive testament to the operation and maintenance of the City's water treatment and distribution system.*



**If you'd like to know even more about City water supplies, check out the City Web Page at [www.ci.santa-barbara.ca.us](http://www.ci.santa-barbara.ca.us)**