

Consumer Confidence Report

Water Quality Data for 2004



Carlsbad Municipal Water District

Water Quality is Everybody's Business

Environmental awareness extends from the air we breathe and the food we eat. Citizens across the country have asked to be kept informed about the quality of their water. In response, Congress and the California Legislature have passed laws that require water agencies to provide an annual water quality report to their customers.

This report will give you an overview of how the Carlsbad Municipal Water District provides your tap water and ensures its high quality.

Ensuring the Safety of Carlsbad's Water

The Carlsbad Municipal Water District is pleased to provide you with this Consumer Confidence Report on water quality. This report gives you information about the quality of the water we delivered to you in the year 2004. This water was purchased from the Metropolitan Water District of Southern California, which conducted the testing and provided a majority of the data for this report.

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 Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap 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 animal or human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.*
- *Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.*

- *Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.*
- *Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.*
- *Radioactive contaminants, which 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 U.S. Environmental Protection Agency and the California Department of Health Services (CDHS) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDHS regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

In addition, we take many steps to ensure your water's quality and safety before it reaches your tap. These include routine water sampling and monitoring, analyzing the results of the sampling and adjusting treatment, flushing pipes through hydrants, and repairing pipes.

Most of the substances listed in this report occur naturally in our environment and in the foods we eat. Their standards have safety margins that take into account contaminant exposures from other sources, such as food and air. For this reason, these standards should not be regarded as fine lines between safe and dangerous concentrations.

This report covers testing for contaminants in 2004. If you have any questions, please contact Jim Ball of the Carlsbad Municipal Water District at (760) 438-2722.

Special Note: 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 at (800) 426-4791.



Where Your Water Comes From

CMWD imports 100% of its water supply, since we have no local sources of water. This supply is treated by and purchased from the Metropolitan Water District of Southern California (MWD) via our wholesaler, the San Diego County Water Authority (SDCWA).

MWD receives water from two sources: the Colorado River through the Colorado River Aqueduct, and Northern California through the California Aqueduct (also known as the State Water Project). These waters are blended and rigorously treated at MWD's Lake Skinner Treatment Plant in southern Riverside County. The water is then delivered to Carlsbad through the San Diego Aqueduct, owned by SDCWA.

In 2004, an average of 63% of our water came from the Colorado River, with the remaining 37% coming from State Water Project.

The water quality data contained in this report is obtained from MWD based on their sampling of waters combined at the Lake Skinner Plants.

In December 2002, the Metropolitan Water District of Southern California completed its source water assessment of its Colorado River and State Water Project supplies. Colorado River supplies are considered to be most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed and wastewater. State Water Project supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of the assessment can be obtained by contacting Metropolitan by phone at (213) 217-6850.

How to Read this Report

As you read the water quality tables in this report, compare the level of constituents found in CMWD's water in the "Combined Skinner Plant Effluents" column with the standards set for them in the MCL and PHG columns. You'll see that CMWD's water did not violate any drinking water standards in 2004.

The following are key terms to help you understand the standards we use to measure drinking water safety.

Public Health Goals (PHGs)

Reflect 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 Goals (MCLGs)

Reflect the same levels as PHGs, but are set by the U.S. Environmental Protection Agency.

Maximum Contaminant Levels (MCLs)

Reflect the highest level of a contaminant that is allowed in drinking water. MCLs are divided into two categories: primary and secondary.

Maximum Residual Disinfectant Levels (MRDLs)

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

Maximum Residual Disinfectant Level Goals (MRDLGs)

Reflect the level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL)

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

Maximum Residual Disinfectant Level Goal (MRDLG)

The level of disinfectant 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.

Treatment Technique

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

Regulatory Action Level

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

Primary Drinking Water Standard or PDWS

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

Abbreviations

AL	California Action Level; as of 1/05 AL became notification level (NL)
CFU/mL	Colony Forming Units per milliliter
DCPA	Dimethyl Tetrachloroterephthalate
DBP	Disinfection By-Products
DLR	Detection Limits for purposes of Reporting
HAA5	Haloacetic Acids (five)
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MFL	Million Fibers per Liter
MPN	Most Probable Number
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum Residual Disinfectant Level Goal
N	Nitrogen
NA	Not Applicable
ND	None Detected
NTU	Nephelometric Turbidity Units
pCi/L	picoCuries per liter
PHG	Public Health Goal
ppb	parts per billion or micrograms per liter (mg/L)
ppm	parts per million or milligrams per liter (mg/L)
ppq	parts per quadrillion or picograms per liter (pg/L)
ppt	parts per trillion or nanograms per liter (ng/L)
RAA	Running Annual Average
SI	Saturation Index (Langelier)
TOC	Total Organic Carbon
TTHM	Total Trihalomethanes
TT	Treatment Technique
mmho/cm	micromho per centimeter; also equivalent to mmho/cm (micromho per centimeter)

Footnotes

- (a) The turbidity level of the filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. Turbidity is a measure of the cloudiness of the water and is a good indicator of water quality and filtration performance. The monthly averages and ranges of turbidity shown in the Secondary Standards section were based on the plant effluents.
- (b) Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. Compliance is based on the combined distribution system sampling from all the filtration plants. In 2004, 11,592 samples were analyzed. The MCL was not violated.
- (c) Fecal coliform/E.coli MDLs: The occurrence of 2 consecutive total coliform-positive samples, one of which contains fecal coliform/E.coli, constitutes an acute MCL violation. The MCL was not violated in 2004.
- (d) HPC values were based on the monthly averages of the plant effluent samples. In 2004, all distribution samples collected had detectable total chlorine residuals and no HPC was required.
- (e) In 2004, the plant effluents had no detectable Cryptosporidium, Giardia, or Total Culturable Viruses. Additionally, there were no Cryptosporidium, Giardia, or Total Culturable Viruses found in all of the plant influents. Source monitoring for Cryptosporidium and Giardia started in July 2004. No Cryptosporidium or Giardia were detected in the source water samples. Cryptosporidium and Giardia samples were collected monthly (10 liters for plant influents and source waters; 200 liters for plant effluents). Total Culturable Viruses samples were collected quarterly.
- (f) Aluminum, copper, MTBE, and thiobencarb have both primary and secondary standards.
- (g) MTBE reporting level is 0.5 ppb.
- (h) State MCL is 45 mg/L as nitrate, which equals 10 mg/L as N.
- (i) Results based on the 2002-2003 four-quarter radiological monitoring program.
- (j) Standard is for Radium-226 and -228 combined.
- (k) Average and range for the filtration plant effluents were taken from weekly samples for TTHM and monthly samples for HAA5. Distribution system-wide average and range were taken from 47 samples collected quarterly. In 2004, Metropolitan was in compliance with all provisions of the Stage 1 Disinfectants/Disinfection By-Products (D/DBP) Rule. Metropolitan was also in compliance with the DBP precursor control portion of the Stage 1 regulation.
- (l) DLR = 1.0 ppb for each HAA5 analyte (dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid) except for monochloroacetic acid which has a DLR = 2.0 ppb.
- (m) Running annual average was calculated from weekly samples.
- (n) Metropolitan has developed a flavor-profile analysis method that can more accurately detect odor occurrences. For more information, contact MWD at (213) 217-6850.
- (o) Data collected from January 2002 to January 2003. Minimum reporting levels are as stipulated in the Federal UCMR. List 1 – Assessment Monitoring consists of 12 chemical contaminants for which standard analytical methods are available. List 2 – Screening survey consists of 16 contaminants for which new analytical methods are used.
- (p) TOCs at the filtration plants were taken at the filter effluents.
- (q) Range for the filtration plant influents and effluents were taken from quarterly samples. No NDMA was detected at the plant influents. Distribution system-wide range were taken from nine (9) samples collected quarterly.
- (r) Lead and copper are regulated in a Treatment Technique under the Lead and Copper Rule. It requires systems to take water samples at the consumers' tap. The federal action level, which triggers water systems into taking treatment steps if exceeded in more than 10% of the tap water samples, is 1.3 ppm for copper and 15 ppb for lead.

2004
Water Quality
Report
to MWD
Member
Agencies
-
The
Metropolitan
Water District
of Southern
California

Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Combined Skinner Plants	Major Sources in Drinking Water
Percent State					Range	18-45	
Project Water	%	NA	NA	NA	Average	37	
PRIMARY STANDARDS--Mandatory Health-Related Standards							
CLARITY							
Combined Filter Effluent Turbidity	NTU	0.3			Highest	0.09	
	%	95 (a)	NA	NA	% < 0.3	100	Soil runoff
MICROBIOLOGICAL							
Total Coliform Bacteria	%	5.0 (b)	(0)	NA	Range Average	Distribution System-wide: 0% Distribution System-wide: 0%	Naturally present in the environment
Fecal Coliform and <i>E. coli</i>	(c)	(c)	(0)	NA		Distribution System-wide Fecal Coliform-positive samples = 0 Distribution System-wide <i>E.coli</i> -positive samples = 0	Human and animal fecal waste
Heterotrophic Plate Count (HPC) (d)	CFU/mL	TT	NA	NA	Range Average	Distribution System-wide: TT Distribution System-wide: TT	Naturally present in the environment
<i>Cryptosporidium</i> (e)	Oocysts/10 or 200 L	TT	(0)	NA	Range Average	TT	Human and animal fecal waste
<i>Giardia</i> (e)	Cysts/10 or 200 L	TT	(0)	NA	Range Average	TT	Human and animal fecal waste
Total Culturable Viruses (e)	MPN/100 L	TT	(0)	NA	Range Average	TT	Human and animal fecal waste
<i>Legionella</i> (e)	MPN/100 L	TT	(0)	NA	Range Average	Distribution System-wide: TT Distribution System-wide: TT	Naturally present in the environment
ORGANIC CHEMICALS							
Pesticides/PCBs							
Acrylamide	NA	TT	(0)	NA	Range Average	TT	Water treatment chemical impurities
Epichlorohydrin	NA	TT	(0)	NA	Range Average	TT	Water treatment chemical impurities
INORGANIC CHEMICALS							
Fluoride	ppm	2	1	0.1	Range Average	0.21-0.30 0.24	Erosion of natural deposits; water additive for tooth health
Nitrate (as N) (h)	ppm	10	10	0.4	Range Average	ND-0.54 ND	Runoff and leaching from fertilizer use; sewage; natural erosion
Nitrate and Nitrite (as N)	ppm	10	10	0.4	Range Average	ND-0.54 ND	Runoff and leaching from fertilizer use; sewage; natural erosion
RADIOLOGICALS (i)							
Gross Alpha Particle Activity	pCi/L	15	NA	3	Range Average	ND-4.0 3.4	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50	NA	4	Range Average	ND-4.1 ND	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.5	2	Range Average	ND-2.4 ND	Erosion of natural deposits
DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BY-PRODUCTS PRECURSORS (FEDERAL RULE)							
Total Trihalomethanes (TTHM) (k)	ppb	80	NA	0.5	Range Average	31-70 53	By-product of drinking water chlorination
Total Trihalomethanes (TTHM) (k)	ppb	80	NA	0.5	Range Highest RAA	Distribution System-wide: 30-87 Distribution System-wide: 60	By-product of drinking water chlorination
Haloacetic Acids (five) (HAA5) (k,l)	ppb	60	NA	1 (l)	Range Average	13-38 21	By-product of drinking water chlorination
Haloacetic Acids (five) (HAA5) (k,l)	ppb	60	NA	1 (l)	Range Highest RAA	Distribution System-wide: 9.7-63 Distribution System-wide: 27	By-product of drinking water chlorination
Total Chlorine Residual	ppm	[4.0]	[4.0]	NA	Range Highest RAA	Distribution System-wide: 1.7-3.0 Distribution System-wide: 2.4	Drinking water disinfectant added for treatment
DBP Precursors Control (TOC) (k)	ppm	TT	NA	0.30	Range Average	TT	Various natural and man-made sources
SECONDARY STANDARDS--Aesthetic Standards							
Chloride	ppm	500	NA	NA	Range Average	80-92 85	Runoff/leaching from natural deposits; seawater influence
Color	Units	15	NA	NA	Range Average	1-3 2	Naturally occurring organic materials
Corrosivity	SI	non-corrosive	NA	NA	Range Average	0.18-0.32 0.26	Elemental balance in water; affected by temperature, other factors
Odor Threshold (n)	Units	3	NA	NA	Range Average	1 1	Naturally occurring organic materials
Specific Conductance	µS/cm	1600	NA	NA	Range Average	786-947 827	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	0.5	Range Average	153-212 169	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1000	NA	NA	Range Average	466-574 492	Runoff/leaching from natural deposits; seawater influence
Turbidity (a)	NTU	5	NA	NA	Range Average	0.05-0.07 0.06	Soil runoff
UNREGULATED CHEMICALS REQUIRING MONITORING							
Boron	ppb	NA	AL = 1,000	100	Range Average	130-140 140	Runoff/leaching from natural deposits; industrial wastes
ADDITIONAL PARAMETERS							
MICROBIAL CONTAMINANTS							
HPC (d)	CFU/mL	TT	NA	NA	Range Average	<1-4 <1	Naturally present in the environment
OTHER PARAMETERS							
Alkalinity	ppm	NA	NA	--	Range Average	103-124 110	
Calcium	ppm	NA	NA	--	Range Average	51-64 54	
Hardness	ppm	NA	NA	--	Range Average	218-269 230	
Magnesium	ppm	NA	NA	--	Range Average	22-26.5 23	
N-Nitrosodimethylamine (NDMA) (g)	ppt	NA	AL=10	2	Range	ND-2.3 Distribution System-wide: ND-12	By-product of drinking water chlorination; industrial processes
pH	Units	NA	NA	--	Range Average	8.0-8.1 8.1	
Potassium	ppm	NA	NA	--	Range Average	3.8-4.3 4.0	
Radon (i)	pCi/L	NA	NA	100	Range Average	ND ND	
Sodium	ppm	NA	NA	--	Range Average	74-90 78	
TOC (p)	ppm	TT	NA	0.30	Range Average	2.1-3.0 2.5	Various natural and man-made sources

Be Part of the Pollution Solution!

Did you know that storm drains are not connected to sanitary sewer systems and treatment plants? The primary purpose of storm drains is to carry rain water away from developed areas to prevent flooding. Untreated storm water and the pollutants it carries flow directly to creeks, lagoons, and the ocean.

Storm water pollution comes from a variety of sources including oil, fuel, and fluids from vehicles and heavy equipment, lawn clippings, pesticide, and fertilizer runoff from landscaping, concrete and sediment from construction and landscaping activities, bacteria from human and animal waste, and litter.

The City of Carlsbad is committed to improving water quality and reducing the amount of pollutants that enter our precious waterways.

Why do we need a clean environment?

Having a clean environment is of primary importance to our health and economy. Clean waterways provide commercial opportunities, recreation, fish habitat, and add beauty to our landscape. All of us benefit from clean water and all of us have a role in making and keeping our creeks, lagoons, and ocean clean.

Who is responsible for protecting storm water? EVERYONE!

Storm water pollution prevention is a shared duty between the City of Carlsbad and the community. The City's responsibility is to monitor and clean storm drains on public streets, property, or easements. The community's role is to keep our storm drains free of trash, debris, excessive vegetation, and other materials that may pollute, contaminate, or block the flow of water through the storm drain system.

What can you do to help keep our creeks, lagoons, and ocean clean?

- *Sweep or Rake.* Sweep up debris and put it in a trash can. Do not use a hose to wash off sidewalks, parking areas, and garages. Rake up yard waste and start a compost pile.
- *Dispose of Yard Waste More Frequently.* By disposing of grass, leaves, shrubs, and other organic matter more frequently, less will wash into storm drains.
- *Reduce Use of Landscape Chemicals.* Decrease the use of lawn and garden care products such as pesticides, insecticides, weed killers, fertilizers, herbicides, and other chemicals. Avoid over-irrigation which washes chemicals into the gutter and storm drains.
- *Use Soap Sparingly.* When washing your car at home, use soap sparingly, divert wash water to landscaped areas, and pour your bucket of soapy water down the sink. Never wash your car in the street.
- *Clean Up After Your Pets.* Take a bag when you walk your pets and be sure to always clean up after them. Flush pet waste down the toilet or dispose of it in a sealed plastic bag and throw it in the trash.
- *Buy Non-Toxic Products.* When possible, use non-toxic products in household cleaning. If you must use a toxic cleaning product, buy small quantities, use it sparingly and properly dispose of unused portions. For the household hazardous waste collection facility nearest you, call (800) CLEANUP.

To view brochures, documents and links to other storm water websites, visit the City of Carlsbad's website at www.carlsbadconserves.org.

To report illegal storm drain discharges, please call the Storm Water Hotline at (760) 602-4646.

A Reminder to Conserve

The Carlsbad Water Ethic promotes responsible and efficient water use in our arid city. The following practices are to be followed even when we are not in a drought situation. It is hoped that Carlsbad residents will adopt these behaviors as a way of life:

- New landscaping shall incorporate drought-tolerant plant materials and micro-irrigation (drip) systems wherever possible.
- Water can never leave the user's property due to over-irrigation of landscape.
- Watering must be done during the early morning or evening hours to minimize evaporation (between 4:00 p.m. and 9:00 a.m. the following morning).
- All leaks must be investigated and repaired.
- Water cannot be used to clean paved surfaces, such as sidewalks, driveways, parking areas, etc., except to alleviate immediate safety or sanitation hazards.
- Reclaimed or recycled water shall be used wherever and whenever possible.

For more information on conservation programs, call (760) 602-4646.

Where Can I Get More Information?

If you have questions or concerns regarding the quality of Carlsbad's water, contact Jim Ball at (760) 438-2722 or by email at jball@ci.carlsbad.ca.us. For more detailed information on testing procedures, results, and source water assessments, contact the Metropolitan Water District of Southern California's Water Quality Division at (800) CALL MWD.

To participate in decisions that affect drinking water in the CMWD service area, please watch the Carlsbad City Council agenda for drinking water items. Agendas can be obtained at Carlsbad City Hall, 1200 Carlsbad Village Drive, or on the Internet at www.ci.carlsbad.ca.us. The City Council meets every Tuesday at 6:00 p.m. at City Hall. Comments regarding your drinking water are always welcome.

This report is mailed to all water customers at their billing address and is available at most City facilities. This report may be photocopied and distributed or posted in a prominent place at your facility. Additional copies are available on the Internet at www.ci.carlsbad.ca.us/water/index.html or by calling the Carlsbad Municipal Water District at (760) 438-2722.

The Carlsbad Municipal Water district is located at 5950 El Camino Real. Our office hours are Monday through Friday, 8:00 a.m. to 5:00 p.m.

Here are a few more sources for water quality information:

San Diego County Water Authority
(858) 522-6600 • www.sdcwa.org

Metropolitan Water District of Southern California
(800) CALL-MWD (225-5693) • www.mwd.dst.ca.us

California Department of Health Services – Division of
Drinking Water & Environmental Management
(619) 525-4159 • www.dhs.ca.gov/ps/ddwem

U.S. Environmental Protection Agency
Office of Ground Water & Drinking Water
(800) 426-4791 – Safe Drinking Water Hotline
www.epa.gov/safewater/dwhealth.html
www.epa.gov/safewater/faq/faq.html