



# Water Quality Report 2006

## An important message about drinking water sources from the USEPA

*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 land or through the ground, it dissolves naturally occurring minerals, and in some cases radioactive materials, and can pick up substances resulting from the presence of animals 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 stormwater 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 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 storm water runoff, agricultural application, and septic systems.

**Radioactive Contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

**Regulations:** In order to ensure that tap water is safe to drink, U.S. Environmental Protection Agency and the State Department of Health Services prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

**Important Health Information:** Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 people, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hot Line. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hot line at 1(800) 426-4791.

**Water Sources:** Riverside's water is groundwater from wells in the Bunker Hill Basin and Riverside Basin. RPU and other water agencies completed a source-water assessment study for Bunker Hill Basin in San Bernardino in October 2002 and Riverside Basin in 2000. The source water assessment reports were submitted to the State Department of Health Services. Copies are available at Riverside Public Utilities, Water Resources.

**Non-English translations:** This report contains important information about your drinking water. Translate it or speak with someone who understands it.

### SPANISH

Este reporte contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Para más información por favor llame (951) 782-0330.

### CHINESE

此份有关你的食水报告, 内有重要资料和讯息, 请找他人为你翻译及解释清楚。

### JAPANESE

この情報は重要です。  
翻訳を依頼してください。

### TAGALOG

Mahalaga ang impormasyong ito.  
Mangyaring ipasalin ito.

### VIETNAMESE

Chi tiết này thật quan trọng.  
Xin nhờ người dịch cho quý vị.

### KOREAN

이 안내는 매우 중요합니다.  
본인을 위해 번역인을 사용하십시오.

# RIVERSIDE PUBLIC UTILITIES 2006 WATER QUALITY REPORT

## PRIMARY STANDARDS: MANDATORY HEALTH-RELATED STANDARDS

CONTAMINANT	STATE MCL	STATE PHG	RIVERSIDE PUBLIC UTILITIES AVERAGE	RANGE	SOURCES IN DRINKING WATER
<b>MICROBIOLOGICAL</b>					
Total Coliform (P/A) (a)	5%	0%	0%	0 - 1.7%	Naturally present in environment
<b>CLARITY</b>					
Turbidity	0.5 NTU	NS	0.1 NTU	0 - 0.4 NTU	Naturally present in environment
<b>REGULATED ORGANIC</b>					
Total Trihalomethanes "TTHMs"	80 ppb	NS	5 ppb	ND - 23 ppb	By-product of drinking water chlorination
Halocetic Acids "HAA5"	60 ppb	NS	0.7 ppb	ND - 8.0 ppb	By-product of drinking water chlorination
Chlorine	4 ppm	4 ppm	0.5 ppm	0.4 - 0.6 ppm	Drinking water disinfectant added for treatment
Control of DBP precursors Total Organic Carbon "TOC"	Treatment Requirement	NS	0.4 ppm	ND - 2.1 ppm	Various natural and man-made sources
Dibromochloropropane "DBCP"	200 ppt	1.7 ppt	13 ppt	ND - 37 ppt	Banned nematocide still present due to past agricultural activities
Trichloroethylene (TCE)	5 ppb	0.8 ppb	ND	<0.5 - 0.6 ppb	Discharge from metal degreasing sites & other factories
<b>REGULATED INORGANIC</b>					
Nitrate (NO <sub>3</sub> )	45 ppm	45 ppm	23 ppm	21 - 25 ppm	Naturally present in environment
Fluoride	2 ppm	1.0 ppm	0.6 ppm	0.5 - 0.7 ppm	Naturally present in environment
Arsenic	50 ppb	4 ppt	2 ppb	<2 - 2 ppb	Erosion of natural deposits
<b>RADIOLOGICAL</b>					
Gross Alpha	15 pCi/L	NS	8 pCi/L	3 - 10 pCi/L	Erosion of natural deposits
Uranium	20 pCi/L	0.5 pCi/L	9 pCi/L	6 - 11 pCi/L	Erosion of natural deposits
<b>LEAD/COPPER (AL)</b> (90% Household Tap)					
Lead (b)	15 ppb	2 ppb	<5 ppb	<5 ppb	Internal corrosion of home plumbing
Copper (b)	1,300 ppb	170 ppb	280 ppb	<50 - 610 ppb	Internal corrosion of home plumbing
<b>ADDITIONAL MONITORING</b>					
Radon	NS	NS	271 pCi/L	213 - 379 pCi/L	Naturally present in environment
<b>REGULATED CONTAMINANTS WITH NO MCLS</b>	<b>NOTIFICATION LEVEL</b>	<b>STATE PHG OR MCLG</b>	<b>AVERAGE</b>	<b>RIVERSIDE RANGE</b>	
Chromium VI	NS	NS	2.0 ppb	1.9 - 2.2 ppb	
Perchlorate	NL 6 ppb	6 ppb	2.2 ppb	<4 ppb	
Vanadium	NL 50 ppb	NS	7 ppb	6 - 8 ppb	
Boron	NL 1000 ppb	NS	118 ppb	ND - 120 ppb	

## Definitions

**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 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 US Environmental Protection Agency (EPA).

**Public Health Goal (PHG)** The level of a contaminant in drinking water below which there is no known or expected health risk. PHGs are set by the California EPA.

**Regulatory Action Level (AL)** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Primary Drinking Water Standard (PDWS)** MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

**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 a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by the US EPA.

**Parts Per Million (ppm)** One part per million corresponds to one minute in two years or one penny in \$10,000.

**Parts Per Billion (ppb)** One part per billion corresponds to one minute in 2,000 years or one penny in \$10,000,000.

**Parts Per Trillion (ppt)** One part per trillion corresponds to one minute in two million years or one penny in \$10,000,000,000.

**Picocuries Per Liter (pCi/L)** A measure of the radioactivity in water.

**Nephelometric Turbidity Units (NTU)** A measure of suspended material in water.

**Micromhos (µMHOS)** A measure of conductivity (electric current) in water.

**NL** Notification level.

**ND** Not detected at the detection limit for reporting.

**NS** No standard.

**GPG** Grains per gallon of hardness (1 gpg = 17.1 ppm).

**<** Less than the detectable levels.

**(a)** Results of all samples collected from the distribution system during any month shall be free of total coliforms in 95 percent or more of the monthly samples.

**(b)** The Lead and Copper Rule requires that 90 percent of samples taken from drinking water taps in program homes must be below the action levels. In 2006, 50 homes participated in the monitoring program.

## Additional Regulatory Information

**Fluoride** - The California Department of Health Services (DHS) has established an "optimal" fluoride level for water at 1 ppm. Riverside has naturally occurring fluoride levels at 0.6 ppm and is not planning to add fluoride to its water by artificial means.

**Perchlorate** - Perchlorate salts were used in solid rocket propellants and other industrial applications. In December 2002, California EPA issued a draft Public Health Goal of 2 to 6 ppb.

In March 2004, California EPA adopted a public health goal of 6 ppb and the DHS adopted an action level of 6 ppb.

Riverside is continuing to develop additional treatment options to meet the changing regulations. Final regulations specifying definitive Maximum Contaminant Level (MCL) is expected in 2007.

**Nitrate** - In drinking water at levels above 45 ppm 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 an 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 ppm 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 advice about nitrate levels from your health care provider.

Riverside provides drinking water that on average is at 23 ppm and has a range from 21 ppm to 25 ppm during the year. DHS has set the MCL for nitrate at 45 ppm. Riverside has 49 wells that are blended to comply with drinking water standards. The city conducts extensive monitoring of the blend operations. Seasonal variation in demand and flow, in addition to system maintenance and repair, impact the nitrate levels during the year.

**Radon** - Radon is a naturally occurring gas formed from the normal radioactive decay of uranium. It is a colorless, odorless, tasteless, chemically inert, and radioactive gas found virtually everywhere on earth. The USEPA recommends that homeowners take remedial action if the indoor air radon level in their home exceeds 4.0 picocuries. The radon in indoor air attributable to water is minor compared to contributions from the soil, or even the outdoor air. For information on radon, call the California Department of Health Services Radon Information Line at 1(800) 745-7236 or contact LuCinda Norried at (951) 351-6331.

### Monitoring Unregulated Contaminants

This monitoring helps USEPA to determine where certain contaminants occur and whether the contaminants need to be regulated. Data is available at [www.epa.gov/ogwdw](http://www.epa.gov/ogwdw).

# SECONDARY STANDARDS

## AESTHETIC STANDARDS

	STATE MCL	RIVERSIDE AVERAGE	PUBLIC UTILITIES RANGE	SOURCES IN DRINKING WATER
Color Units	15	<3	<3	Naturally present in environment
Odor Threshold	3	1	<1 - 2	Naturally present in environment
Chloride	500 ppm	26 ppm	18 - 28 ppm	Naturally present in environment
Sulfate	500 ppm	63 ppm	40 - 69 ppm	Naturally present in environment
Total Dissolved Solids "TDS"	1,000 ppm	362 ppm	341 - 560 ppm	Naturally present in environment
Specific Conductance	1,600 µmho	576	545 - 592	Substances form ions in water
Corrosivity	Noncorrosive	0.1	0 - 0.3	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water; affected by temperature and other factors
pH Units	NS	7.8	7.3 - 8.1	Naturally present in environment
Hardness (CaCO <sub>3</sub> )	NS	207 ppm (12 gpg)	180 - 220 ppm	Naturally present in environment
Alkalinity (CaCO <sub>3</sub> )	NS	155 ppm	147 - 168 ppm	Naturally present in environment
Sodium	NS	40 ppm	36 - 45 ppm	Naturally present in environment
Calcium	NS	65 ppm	61 - 68 ppm	Naturally present in environment
Potassium	NS	3 ppm	2 - 4 ppm	Naturally present in environment
Magnesium	NS	10 ppm	9 - 11 ppm	Naturally present in environment

## Monitoring Report 2006

Riverside Public Utilities tests for more than 200 possible contaminants in our water system. This report provides data from sampling conducted in calendar year 2006. Only those contaminants detected in our water system are listed here. For a listing of additional chemical tests, please contact Water Quality Supervisor LuCinda Norried at (951) 351-6331.

## Water Resources

Riverside met 98% of its water needs from groundwater resources, while receiving only 2% from Western Municipal Water District (WMWD). Water quality information for imported water is available on request from WMWD.

## Water Compliance & Monitoring Program

In 2006, we collected more than 17,000 water samples to test for a variety of potential contaminants. Samples were collected at water sources, along transmission pipelines, throughout the distribution system, including reservoirs and booster stations, and treatment plants to ensure water quality from its source to your meter.

The Utility uses state certified independent laboratories to perform water tests. This ensures that an independent set of experts test your water from the source to your meter. Last year, we spent more than \$550,000 on compliance laboratory costs.

## Riverside Public Utilities 2006 Water Sampling Data

7,084 - Samples collected to test for bacteria.

3,879 - Samples collected for source and system compliance and monitoring.

6,134 - Samples collected for treatment plant compliance and monitoring.

17,097 - Total samples collected.

We are pleased to report that our water met or exceeded all state and federal drinking water quality standards in 2006. We welcome you to attend our Board of Public Utilities meetings at 3901 Orange Street, in Riverside, held at 8:15 a.m. on the first and third Fridays of each month. You can also visit our website at [www.riversidepublicutilities.com](http://www.riversidepublicutilities.com) for more information.