WATER | ENERGY | LIFE

CITY OF RIVERSIDE PUBLIC UTILITIES

Water Quality Report 2011

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 California Department of Public Health (CDPH) 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 Hotline 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 the Riverside Basin in 2000. The source water assessment reports were submitted to the CDPH. Copies are available at Riverside Public Utilities, Water Resources.

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 ó 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 사용하십시요.

SECONDARY STANDARDS
AESTHETIC STANDARDS

	STATE MCL	RIVERSIDE PUBLIC UTILITIES AVERAGE	RIVERSIDE PUBLIC UTILITIES RANGE	SOURCES IN DRINKING WATER
Odor Threshold	3	<1	<1 - 2	Naturally present in environment
Chloride	500 ppm	28 ppm	21 - 32 ppm	Naturally present in environment
Sulfate	500 ppm	67 ppm	62 - 72 ppm	Naturally present in environment
Total Dissolved Solids "TDS"	1,000 ppm	367 ppm	320 - 420 ppm	Naturally present in environment
Specific Conductance	1,600 µmho	577	570 - 590	Substances form ions in water
Corrosivity	Noncorrosive	0.4	0.3 - 0.4	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water; affected by temperature and other factors
pH Units	NS	7.7 units	6.7 - 8.4 units	Naturally present in environment
Hardness ($CaCO_3$)	NS	205 ppm (12 gpg)	200 - 220 ppm	Naturally present in environment
Alkalinity ($CaCO_3$)	NS	160 ppm	160 ppm	Naturally present in environment
Sodium	NS	40 ppm	39 - 41 ppm	Naturally present in environment
Calcium	NS	65 ppm	63 - 70 ppm	Naturally present in environment
Potassium	NS	3 ppm	3 ppm	Naturally present in environment
Magnesium	NS	10 ppm	9 - 10 ppm	Naturally present in environment
Turbidity	5.0 NTU	0.1 NTU	<0.1 - 0.9 NTU	Naturally present in environment

Monitoring Report 2011

Riverside Public Utilities tests for more than 200 possible contaminants in our water system. This report provides data from sampling conducted in calendar year 2011. Only those contaminants detected in our water system are listed here. For a listing of additional chemical tests, please contact Water Quality Manager Adam Ly at (951) 351-6331.

Water Resources

RPU met all of its water supply needs in 2011 by utilizing groundwater sources located in the San Bernardino Bunker Hill Basin and the Riverside Basin. RPU treats some of its wells and all water sources are blended at a central location before entering into distribution. All data provided are from samples collected in the distribution system or at the entry point to the system.

Water Compliance & Monitoring Program

In 2011, we collected more than 17,300 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 $600,000 on compliance laboratory costs.

Riverside Public Utilities 2011 Water Sampling Data

5,293 - Samples collected to test for bacteria.

7,485 - Samples collected for source and system compliance and monitoring.

4,548 - Samples collected for treatment plant compliance and monitoring.

17,326 - Total samples collected.

We are pleased to report that our water met or surpassed all state and federal drinking water quality standards in 2011. We welcome you to attend our Board of Public Utilities meetings at 3901 Orange Street, in Riverside, held at 8:30 a.m. on the first and third Fridays of each month. You can also visit our website at BlueRiverside.com for more information.

RIVERSIDE PUBLIC UTILITIES 2011 WATER QUALITY REPORT

PRIMARY STANDARDS: MANDATORY HEALTH-RELATED STANDARDS

CONTAMINANT	STATE MCL	STATE PHG	RIVERSIDE PUBLIC UTILITIES AVERAGE	RIVERSIDE PUBLIC UTILITIES RANGE	SOURCES IN DRINKING WATER
CLARITY					
Turbidity	TT	NS	0.11 NTU (Highest)	100% Meeting turbidity limits	Soil runoff
MICROBIOLOGICAL					
Total Coliform (P/A) (a)	>5%	0 (MCLG)	0%	0 - 1%	Naturally present in environment
REGULATED ORGANIC					
Total Trihalomethanes "TTHMs"	80 ppb	NS	4.1 ppb	ND - 11 ppb	By-product of drinking water disinfection
Halocetic Acids "HAA5"	60 ppb	NS	ND	ND - 2.6 ppb	By-product of drinking water chlorination
Chlorine	4.0 ppm (MRDL)	4 ppm (MRDLG)	0.5 ppm	ND - 1.5 ppm	Drinking water disinfectant added for treatment
Control of DBP precursors Total Organic Carbon "TOC"	TT	NS	0.2 ppm	ND - 0.6 ppm	Various natural and man-made sources
REGULATED INORGANIC					
Arsenic	10 ppb	4 ppt	2 ppb	2 ppb	Erosion of natural deposits
Fluoride	2 ppm	1.0 ppm	0.6 ppm	0.5 - 0.6 ppm	Naturally present in environment
Nitrate (NO_3)	45 ppm	45 ppm	22 ppm	18 - 26 ppm	Naturally present in environment
Perchlorate	6 ppb	6 ppb	ND	ND	Inorganic chemical used in variety of industrial operations.
RADIOLOGICAL					
Gross Alpha	15 pCi/L	0 (MCLG)	8 pCi/L	<3 - 13 pCi/L	Erosion of natural deposits
Uranium	20 pCi/L	0.43 pCi/L	10 pCi/L	4.5 - 14 pCi/L	Erosion of natural deposits
LEAD/COPPER (AL) (90% Household Tap)					
Copper (b)	1,300 ppb	300 ppb	470 ppb	<50 - 730 ppb	Internal corrosion of home plumbing

REGULATED CONTAMINANTS WITH NO MCLS	NOTIFICATION LEVEL	STATE PHG OR MCLG	RIVERSIDE AVERAGE	RIVERSIDE RANGE
Chromium VI	NS	0.02 ppb	2.2 ppb	1.9 - 2.7 ppb
Vanadium	NL 50 ppb	NS	6 ppb	6 ppb
Boron	NL 1000 ppb	NS	ND	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 MRDL's for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

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.

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.

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

Treatment Technique (TT) A required process intended to reduce the level of a contaminant in drinking water.

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 the program homes must be below the action levels. Monitoring is required every 3 years. In 2010, 62 homes participated in the monitoring program. No lead was detected in the samples collected. The average value listed for copper is the 90th percentile result. No home exceeded the action level. The next monitoring program is scheduled for 2013.

Additional Regulatory Information

Fluoride - The California Department of Public Health (CDPH) 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.

Lead - 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. Riverside Public Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. 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 take minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

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 22 ppm and has a range from 18 ppm to 26 ppm during the year. CDPH has set the MCL for nitrate at 45 ppm. Riverside has 52 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.

Perchlorate - Perchlorate is a regulated drinking water contaminant in California. The maximum contaminant level for perchlorate is 6 parts per billion. Perchlorate salts were used in solid rocket propellants and other industrial applications.

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.