

# RAINBOW MUNICIPAL WATER DISTRICT

## ANNUAL DRINKING WATER QUALITY REPORT 2007

Rainbow Municipal Water District (RMWD) is pleased to provide you the Annual Drinking Water Quality Report for 2007. This brochure is a snapshot of the water quality information that was compiled during 2007. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State standards. Last year, we conducted more than 1,953 tests for total coliform bacteria. RMWD routinely monitors the distribution system for drinking water contaminants. The California Department of Public Health (CDPH) requires that no more than 5% of the water samples collected per month may test positive for total coliform. The District was in compliance for the entire year.

*Coliform bacteria are bacteria, which are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present.* Usually, coliform bacteria are a sign that there could be a problem with the treatment system or the distribution system. Whenever we detect coliform bacteria in any sample, we do follow-up testing to see if other bacteria of greater concern, such as fecal coliform or E. coli, are present.

### Open Reservoir Statement

The District's water storage and distribution system includes over 300 miles of pipeline, twelve closed steel tanks, and four open reservoirs. The four open reservoirs contain up to 86% of our total storage capacity. When originally built, the reservoirs met health standards; however, in 2009 standards will be more stringent and require open reservoirs to be covered. Open reservoirs may pose a significant contamination risk to the water

supply by contact from humans, animals, birds, windblown materials and vandalism. Open reservoirs are also the most vulnerable part of a water system to terrorism. Because these reservoirs are not covered, the District monitors all storage facilities daily in accordance with the CDPH Open Reservoir Policy to ensure that fences, drains, diversion structures, and liners are in the very best condition. Bacteriological tests are taken at each open reservoir five times a week. The finished water leaving these open reservoirs is disinfected by injecting chlorine before it enters the distribution system.

### Where does my water come from?

RMWD purchases 100% of its treated water from the San Diego County Water Authority (SDCWA). The SDCWA in turn purchases its water from the Metropolitan Water District of Southern California (MWD). Water is delivered to our District from SDCWA and MWD using a complex system of aqueducts and pipes. The water contains a mixture of chlorine and ammonia, which creates a strong disinfectant known as chloramines. Chlorine residual is constantly monitored, and when applicable the District injects small amounts of chlorine into the water at facilities throughout the District. Should a water quality problem occur, RMWD is prepared to take remedial action as set forth in an Operational Plan approved by the California Department of Public Health.

### Source water assessment and its availability

In December 2002, 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 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 on the MWD website at [www.mwd.com](http://www.mwd.com) or by calling (213) 217-6850.

### How can I get involved?

For additional water quality or operational information, please contact the Operations Department at (760) 728-1178 or visit our website at [www.rainbowmwd.com](http://www.rainbowmwd.com). We want our valued customers to be informed about their water utility. If you want to learn more, you are invited to attend any of our regularly scheduled Board of Directors meetings. Meetings are held every fourth Tuesday of the month at the District headquarters located at 3707 Old Highway 395, Fallbrook, CA 92028. Check the website for times.



## Conservation

Water is our most precious natural resource and with some conservation practices we'll have it when we need it. Check your water meter to see if it's spinning when all your water is turned off. If the dial is still moving you probably have an undetected leak somewhere on the property. With the right landscape, irrigation maintenance, and new high-efficiency irrigation parts, outdoor water conservation is easy. Plan and design your landscape for aesthetics and most of all water efficiency. Turf is the biggest water user so be selective with this landscape component and in some situations lawn can be replaced with trees, shrubs, boulders, pathways, or mulched areas. If you have any questions about this topic consult a landscape architect or landscape designer.

## Why are there contaminants in my drinking water?

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 EPA's Safe Drinking Water Hotline at 1-800-426-4791 or look for it on the EPA's web site ([www.epa.gov/safewater.com](http://www.epa.gov/safewater.com)). 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 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 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 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, that are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater 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 healthy, USEPA and the State Department of Health Services prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

RMWD routinely monitors for contaminants in your drinking water according to federal and state laws. The table in this brochure shows the results of our monitoring for the period of January 1st to December 31st, 2007.

## Do I need to take special precautions?

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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791). Cryptosporidium ("crypto") is a microscopic organism found in California's rivers and streams, and comes from animal wastes in the watershed. When ingested by humans, it may result in a variety of gastrointestinal symptoms including diarrhea, nausea and fever. The Metropolitan Water District of Southern California has tested for crypto in its treated water supplies for years. Since 1997, this organism has not been detected in either Metropolitan's source water or treated water.

## Certified Operators

The District's water operators are certified in both water distribution and water treatment. Drinking water operator competency is critical for the protection of public health and the maintenance of safe, optimal, and reliable operations of water treatment and distribution facilities. Minimum Federal guidelines ensure that operators have the operational skills, knowledge, experience, education, and training required to operate a water system. Once water operators are initially trained and certified, regular recertification will ensure continual competency. The requirements to be issued by EPA and CDPH will provide baseline standards for efficient and effective State water operator certification programs.

PRIMARY STANDARDS – MANDATORY HEALTH-RELATED STANDARDS					
Microbiological Contaminants (to be completed only if there was a detection of bacteria)	Highest No. of detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria
<b>MICROBIOLOGICAL</b>					
Total Coliform Bacteria	0 in the year	0	More than 1 sample in a month with a detection	0	Naturally present in the environment
Fecal Coliform or <i>E. coli</i>	0 in the year	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i>	0	Human and animal fecal waste

## PRIMARY STANDARDS – MANDATORY HEALTH-RELATED STANDARDS

### INORGANIC COMPOUNDS

Lead and Copper (to be completed only if there was a detection of lead or copper in the last sample set)	No. of samples collected	90th percentile level detected	No. sites exceeding AL	AL	PHG	Typical Source of Contaminant
Copper (f) (ppm)	30	0.35	0	1.3	0.17	Internal corrosion of household plumbing systems; erosion of natural deposits.
Lead (f) (ppm)	30	<0.005	0	0.015	2	Internal corrosion of household water plumbing systems; Discharges from industrial manufacturers, erosion of natural deposits.

Parameter (a)	Average	Range	MCL	PHG MCLG	Major Sources in Drinking Water
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### DETECTION OF CONTAMINANTS WITH A PRIMARY STANDARD

Fluoride (ppm) Treated	0.20	.5-.9	4.0	4.0	Erosion of natural deposits; water additive for tooth health
Haloacetic Acids(HAA5) (e)(ppb)	34	9.7-99	60	NA	By-product of drinking water chlorination.
TTHM (e)(ppb) [Total trihalomethanes]	50	26-140	80	NA	By-product of drinking water chlorination.
Total Chlorine Residual [MRDL] (ppm)	2.7	2.2-3.3	4	NA	Drinking water disinfectant added for treatment.
DBP Precursors Control (TOC) (ppm)	TT	2.0-2.7	TT	0.30	Various natural and man-made sources.

### RADIONUCLIDE (pCi/L)

Gross Alpha Particle Activity (pCi/L)	ND	ND 5.5	15	0	Erosion of natural deposits.
Gross Beta Particle Activity (pCi/L)	ND	ND	50	0	Decay of natural and man-made deposits.
Uranium (pCi/L)	2.3	1.5-3.2	20.0	0.43	Erosion of natural deposits.

### SECONDARY STANDARDS - AESTHETICS STANDARDS

Chloride (ppm)	92	84-96	500	NA	Runoff/leaching from natural deposits; Seawater influence.
Color (units)	2	1-2	15	NA	Naturally occurring organic materials.
Specific Conductance (umho/cm)	841	755-927	1600	NA	Substances that form ions when in water; seawater influence.
Sulfate (ppm)	169	134-202	500	NA	Runoff/leaching from natural deposits; industrial wastes.
Total Dissolved Solids (TDS) (ppm)	495	438-551	1000	NA	Runoff/leaching from natural deposits.
Turbidity (monthly)(NTU)(b)	.05	.05-.07	5	NA	Soil runoff.

### ADDITIONAL PARAMETERS

Hardness (ppm)	226	194-254	NA	NA	Leaching from natural deposits.
Sodium (ppm)	83	73-89	NA	NA	Runoff/leaching from natural deposits; Seawater influence.
Boron (ppb)	140	130-160	NA	AL= 1000	Leaching from natural deposits.

*Este informe contiene informacion muy importante sobre la calidad de su agua beber. Traduscalo o hable con alguien que lo entienda bien.*



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## Municipal Water District

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### Board of Directors

Gerald Walson	Division 1
Jack Griffiths	Division 2
George McManigle	Division 3
Bob Lucy	Division 4
Rua Petty	Division 5

## Terms & Abbreviations

*In this table, you will find many terms and abbreviations you may not be familiar with. To help you better understand these terms we've provided the following definitions:*

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

**MCL - Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to public health goals (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

**MCLG - Maximum Contaminant Level Goal:** The maximum level of a contaminant where there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

**mg/L or ppm - Milligrams per liter (mg/L) or Parts per million (ppm)** 1 part per million = 1 drop in 10 gallons.

**MRDL - Maximum Residual Disinfectant Level:** The level of disinfectant added for water treatment that may not be exceeded at the consumer's tap.

**MRDLG - Maximum Residual Disinfectant Level Goal:** 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.

**NA - Not applicable.**

**ND - None Detected:** Laboratory analysis indicates that the constituent is not present.

**NTU - Nephelometric Turbidity Units:** A measure of the cloudiness of the water.

**pCi/L - PicoCuries per liter:** A measure of radioactivity.

**PHG - Public Health Goal:** The level of contaminant in drinking water

below which there is no known or expected risk to health. PHGs are set by the California Environmental Agency.

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

**TT - Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.

**Umho/cm - Micromhos per centimeter** (a measure of a substance's ability to convey electricity).

**ug/L or ppb - Micrograms per liter (ug/L) or Parts per billion (ppb).** 1 part per billion is = 1 drop in 10,000 gallons.

- (a) Data shown are annual averages and ranges.
- (b) 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 5.0 NTU at any time.
- (c) Total coliform MCLs: For a water system collecting fewer than 40 samples per month, no more than 1 of the monthly samples may be total coliform positive. This MCL was violated in December, 2003.
- (d) Calculated from the average of quarterly filtration plant effluent samples.
- (e) Calculated from the running annual average of quarterly samples.
- (f) The Federal and State standards for lead and copper are treatment techniques requiring agencies to optimize corrosion control treatment. Average of highest value is the 90th percentile value.
- (g) Standards are for Radium-226 and Radium-228 combined.

*We have learned through our monitoring and testing that some contaminants have been detected. However, the EPA has determined that your water meets all drinking water health standards at these levels (c).*

