

City of

Redlands

Municipal Utilities Department

2002 Consumer Confidence Report



Each year, the City of Redlands Municipal Utilities Department publishes its Consumer Confidence Report to keep you, our customer-owners, up-to-date about water quality issues related to your drinking water system.

Each day, Municipal Utilities Department Water Division employees work hard to maintain our commitment to provide you with reliable, high quality water services that meet or exceed all state and federal standards for drinking water quality.

We welcome your comments regarding water issues in Redlands at our City Council Meetings held in the Council Chambers at 35 Cajon Street in Redlands the first and third Tuesdays of each month.



**P.O. Box 3005
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Redlands, CA 92373 (909) 798-7698
www.ci.redlands.ca.us**

Did My Water Rates Change?

In 2002, the Redlands Municipal Utilities Department performed extensive water rate studies and determined that rate increases were needed to maintain the operational and economic stability of the Utilities.

A Utilities Advisory Committee made up of 12 citizens representing various user classes agreed, and reviewed the study to ensure that fair and equitable rates were established. On the advice of the Committee, the Redlands City Council approved the new rate structures, which became effective on January 2, 2003.

The City of Redlands had not updated its water rates for over 10 years. The last rate increases took place in 1992, and in 1994 and 1995 water rates were actually *decreased* by 10-12%!

It remains the goal of Redlands Municipal Utilities Department to continue to provide you with the highest quality services at the lowest possible cost. These new rate structures help us to maintain this goal.

It is important to note, that even with the rate increases, Redlands Municipal Utilities Department continues to provide you with competitively priced water services.

For additional rate information, and water conservation tips that can help you reduce your bill, please visit our web site at [**www.ci.redlands.ca.us**](http://www.ci.redlands.ca.us)

For additional water quality information in Redlands you may contact one of the following people at (909) 798-7698.

Gary Phelps, Municipal Utilities Director

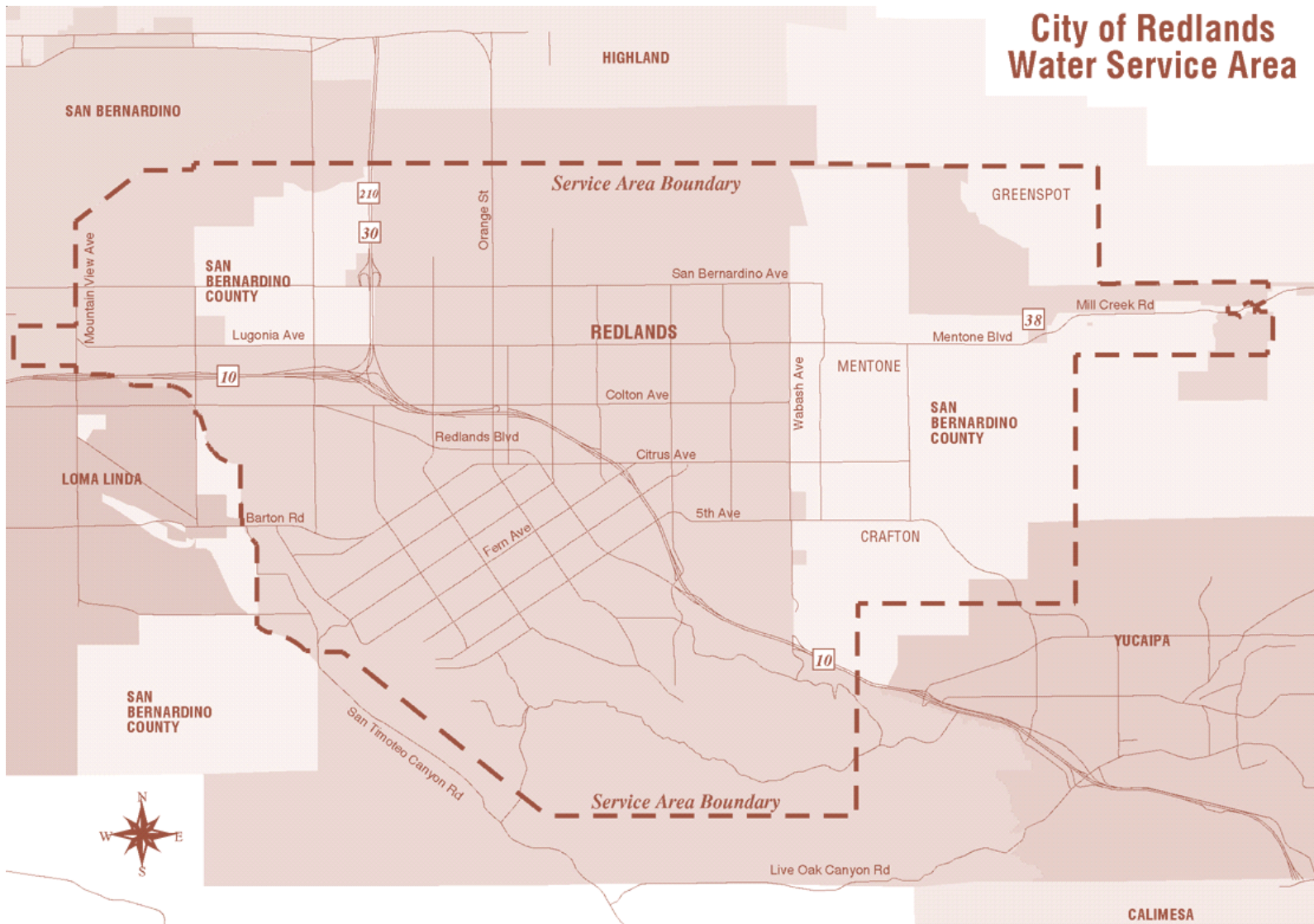
Douglas Headrick, Chief of Water Resources

Dave Commons, Water Operations Manager

John Morales, Water Quality Control Officer

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

City of Redlands Water Service Area



Providing Quality Water Services While Protecting Our Water Supplies

For more than 90 years, the City of Redlands has been in charge of providing high quality drinking water to the Redlands and Mentone areas.

Today, a system consisting of 36 wells, 39 booster pumps, 38 water transfer stations, two water filtration plants, and 15 reservoirs with 51 million gallons of storage capacity continue to maintain our water service commitments.

A series of pipelines extending over 340 miles services 3,000 fire hydrants and more than 19,000 metered accounts in our nearly 46 square mile service area.

More than 75,000 residents in Redlands, Mentone, parts of Crafton Hills and San Timoteo Canyon, and a small part of San Bernardino depend on Redlands Municipal Utilities Department to provide water service to their homes and businesses. By supplying a blend of local groundwater, local surface water, and imported water from the State Water Project, Redlands Municipal Utilities

Department is able to meet the daily demands of these customers.

Local groundwater is pumped from wells in Redlands, Mentone, Yucaipa, and Mill Creek, while surface water is diverted from Mill Creek and the Santa Ana River. Imported water is delivered from Northern California through State Water Project facilities owned by the San Bernardino Valley Municipal Water District.

During 2002, the City delivered just over 10 billion gallons of water that met or exceeded all state and federal drinking water quality standards.

The City of Redlands Municipal Utilities Department remains committed to protecting its water sources from contamination. You too can do your part by properly disposing of household and commercial hazardous wastes. To find out how to properly dispose of these wastes so they do not contaminate the groundwater, please phone our Solid Waste Division at (909) 798-7529.

From January 1, 2002 to December 31, 2002, the City of Redlands conducted over 26,000 water quality tests from samples taken at various locations throughout the water system in accordance with state and federal laws. The following tables list only those contaminants that were detected. It is important to note, that the presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

Primary Drinking Water Standards

Chemical / Constituent	MCL [MRDL]	PHG, (MCLG), or [MRDLG]	Redlands Water	Range of Detection	Typical Source Of Contaminant
<u>Microbiological Contaminants</u>					
Turbidity	TT	N/A	0.23	0.1 - 2.2	Soil runoff
<u>Radioactive Contaminants</u>					
Gross Alpha Activity (pCi/L)	15	N/A	2.3	0 - 9.5	Erosion of natural deposits
Uranium (pCi/L)	20	0.5	1.9	0 - 8	Erosion of natural deposits
<u>Inorganic Contaminants</u>					
Aluminum (ppm)	1	0.06	0	ND - 0.078	Erosion of natural deposits
Arsenic (ppb)	50	N/A	0.04	ND - 3.6	Erosion of natural deposits
Chromium (ppb)	50	(100)	0.05	ND - 1.2	Erosion of natural deposits
Fluoride (ppm)	2	1	0.55	ND - 2	Erosion of natural deposits
Nitrate as nitrate (ppm)	45	45	8.1	ND - 12.7	Runoff and leaching from fertilizer use; leaching from septic tanks and sewers
Nitrate as nitrogen (ppm)	10	10	0.08	ND - 2	
<u>Synthetic Organic Contaminants</u>					
Dibromochloropropane DBCP (ppt)	200	1.7	3	ND - 24	Banned nematocide in soils due to leaching from former use on citrus trees
<u>Disinfection By-products, Disinfectant Residuals, Disinfection By-product Precursors</u>					
Total Trihalomethanes TTHMs (ppb)	80	N/A	42	ND - 126	By-product of drinking water chlorination
Halocetic Acids (ppb)	60	N/A	9	ND - 43	By-product of drinking water disinfection
Chlorine (ppm)	[4]	[4]	0.25	0.01 - 0.40	Drinking water disinfectant added for treatment

Terms Used in This Report

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 U.S. Environmental Protection Agency (USEPA).

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.

Primary Drinking Water Standards (PDWS): MCLs 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 customer'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 health risk. MRDLs are set by the US EPA.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect health at the MCL levels.

ND: Not detectable at testing limit.

ppm: Parts per million or milligrams per liter (mg/L).

ppb: Parts per billion or micrograms per liter (ug/L).

ppt: Parts per trillion or nanograms per liter (ng/L).

pCi/L: Picocuries per liter (a measure of radiation).

Micromhos: A measure of conductivity in water.

Redlands Water: Water system weighted average for water supplied to customers.

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

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

Secondary Drinking Water Standards (Aesthetic Standards)

Chemical / Constituent	MCL	Redlands Water	Range of Detection	Typical Source Of Contaminant
Aluminum (ppb)	200	0	ND - 78	Erosion of natural deposits
Iron (ppb)	300	4.9	ND - 110	Leaching from natural deposits; industrial wastes
Odor -Threshold (units)	3	1	0 - 1	Naturally occurring organic materials
Turbidity - NTU (units)	5	0.23	0 - 2.2	Soil runoff
Zinc (ppm)	5.0	3.95	ND - 58	Runoff/leaching of natural deposits, industrial wastes
Total Dissolved Solids TDS - (ppm)	1,000	281	ND - 350	Runoff/leaching of natural deposits
Special Conductance (micromhos)	1,600	395	0 - 600	Substances that form ions in water
Chloride (ppm)	500	41.5	ND - 100	Runoff/leaching of natural deposits
Sulfate (ppm)	500	38.5	ND - 84	Runoff/leaching of natural deposits

Sampling Results for Sodium and Hardness

Chemical / Constituent	MCL	PHG	Redlands Water	Range of Detection	Typical Source Of Contaminant
Sodium (ppm)	N/A	N/A	37.2	1.4 - 76	Generally found in ground and surface water
Hardness (ppm)	N/A	N/A	140.9	ND - 220	Generally found in ground and surface water

Additional Monitoring (Unregulated Chemicals)

Chemical / Constituent	Action Level	Redlands Water	Range of Detection	
Boron (ppm)	1	6	ND - 160	
Perchlorate (ppb)	4	0.7	ND - 9 *	* For more information on perchlorate issues in Redlands please see page 6.
Vanadium (ppb)	50	7.2	ND - 47	
Radon (pCi/L)	N/A	378.6	ND - 1,200	
Calcium (ppm)	N/A	40.2	9.7 - 63	
Magnesium (ppm)	N/A	11.2	4.3 - 19	
Potassium (ppm)	N/A	4.5	ND - 9.3	
Bicarbonate (ppm)	N/A	155	ND - 230	
Alkalinity	N/A	127	ND - 190	
PH	N/A	7.3	7.0 - 8.1	

Important Facts About Drinking Water From the US EPA

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 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 the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (US EPA) and the California Department of Health Services (Department) 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.

Additional Information About Drinking Water

All 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 US EPA's Safe Drinking Water Hotline (1-800-426-4791).

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. US EPA/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).

Information about Radon

We constantly monitor the water supply for various contaminants including radon, which is a naturally occurring gas formed from the normal radioactive decay of uranium. We have detected radon in the finished water supply in 4 out of 20 samples tested. There is no federal regulation for radon levels in drinking water. Exposure over a long period of time to air transmitting radon may cause adverse health effects.

Sampling Results Showing Treatment of Surface Water Sources

Treatment Technique is a required process intended to reduce the level of a contaminant in drinking water.* Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements. **

Treatment Technique*	Conventional Filtration
Lowest Monthly % of Samples Meeting TPS No. 1	100%
Highest single turbidity measurement during 2002	0.28
Number of Violations to Any Surface Water Treatment Regulations	None

Turbidity Performance Standards (TPS):** The turbidity level of the combined filter effluent shall be less than or equal to .30 NTU in 95% of the measurements taken each month and shall not exceed 1.0 NTU for more than one hour. Additionally, the turbidity level of the combined filter effluent shall not exceed 1.0 NTU for more than eight consecutive hours while the plant is operating.

2002 Lead & Copper Analysis Results

In 2002 the Municipal Utilities Department performed a lead and copper water analysis of residential homes in Redlands. While lead and copper have not been detected in our water sources, when water comes in contact with plumbing lead and copper can become detectable. Of the 32 samples tested, none exceeded the water quality AL for lead or copper. The 90th percentile for lead and copper were non-detectable.

Perchlorate In Redlands - What Is Being Done?

There has been a lot of talk in the news lately about the chemical perchlorate and how it is contaminating water sources throughout Southern California and the United States. Even though the safe level of perchlorate is still being debated among the health science community and water agencies, the City of Redlands remains committed to providing you with the highest quality drinking water, which meets or exceeds all state and federal quality standards.

Perchlorate is an inorganic chemical that is used in solid rocket propellants, fireworks, explosives, and a variety of industrial uses. In large doses it is known to interfere with the uptake of iodine in the thyroid gland, which can effect the production of thyroid hormones needed for healthy growth and development of unborn and newborn children, as well as normal body metabolism in adults.

In March 2002, the City of Redlands Municipal Utilities Department notified you that several of our wells were found to contain perchlorate at levels that exceeded a new State of California Department of Health Services (DHS) action level.

At that time, we informed you of our efforts to continue to meet all regulatory requirements for drinking water. Over the past year, we have been hard at work accomplishing these tasks and have taken the following steps to reduce and eliminate the need to deliver water with any detectable perchlorate contamination.

- ◆ New water well sites are under construction to replace wells lost to perchlorate contamination.
- ◆ Highly contaminated wells have been shut down or treated to remove all detectable amounts of perchlorate.
- ◆ Water from less contaminated wells is being blended with uncontaminated sources to reduce perchlorate below the DHS action level.
- ◆ Surface water treatment facility capacity was increased to optimize the use of perchlorate-free water sources.

Construction of the new water well sites was approved by the Redlands City Council in March 2003. These new wells will provide an important source of perchlorate-free water by the end of this summer.

However, under certain water supply conditions (such as meeting peak summer water demands) it may be

necessary to deliver water with perchlorate concentrations just above the detection level of 4 parts per billion (equivalent to 4 drops of water in an Olympic-size swimming pool). In order to avoid this, we do ask for your help. Wise water use and conservation will help us to meet our peak water demands without having to use water with even minor amounts of perchlorate.

For water conservation tips and more information on perchlorate issues in Redlands please contact us at (909) 798-7698. Additional information on perchlorate action levels is available at the Department of Health Services web site at: www.dhs.ca.gov/ps/ddwem/chemicals/perchl/perchlindex.htm

Additional Information:

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 the infants blood to carry oxygen, resulting in 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 specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider. The average level of nitrate in Redlands water is around 8 ppm, well below the Maximum Contaminant Level of 45 ppm.

Total Trihalomethanes (TTHMs) are a by-product of drinking water chlorination. The MCL for TTHMs of 80 ppb is based upon a running average throughout the entire year. While Redlands water had a range of detection from non-detectable to 126 ppb, its running average for TTHMs in 2002 was 42 ppb, below the MCL of 80 ppb and in full compliance with all state and federal water quality standards.



Water - Use it Wisely!

It is important that we all take steps to use water wisely and help preserve our precious natural water resources. Below are just some of the ways that you can be water wise and reduce your water consumption. You'll not only help conserve water, but you'll also reduce your water bills!

1. Check toilets for leaks. Put a little food coloring in the toilet tank - if the color appears in the bowl, you have a leak that needs to be repaired.
2. Install water conservation devices such as low-flow shower heads and Ultra Low Flush Toilets, which use 1.6 gallons per flush or less (compared to 3.5 to 7 gallons for older toilets).
3. Wash only full loads of laundry and dishes.
4. Water your lawn only when it needs it. A good way to check to see if it needs water is to step on it. If it springs back, it doesn't need watering.
5. Check all pipes, faucets, and fittings for leaks. Unchecked leaks can waste thousands of gallons of water each year!

For additional conservation tips and information call (909) 798-7698 or visit www.ci.redlands.ca.us

Utility Seeks Residents for Lead and Copper Water Analysis

Redlands Municipal Utilities is seeking 30 residential customers to participate in a free lead and copper water analysis. Lead and copper have not been detected in Redlands' water sources. However, when water comes in contact with plumbing, lead and copper can become detectable.

The water sample collection process simply consists of filling a bottle with water from your tap first thing in the morning, one time. The sample will then be picked up by City water quality staff.

If your home was built between 1982 and 1988, lead levels in your home could be higher than normal. If you want to participate in the 2003 residential lead and copper water analysis please contact Water Quality Manager John Morales at (909) 798-7502 or Water Operations Manager Dave Commons at (909) 798-7698.

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