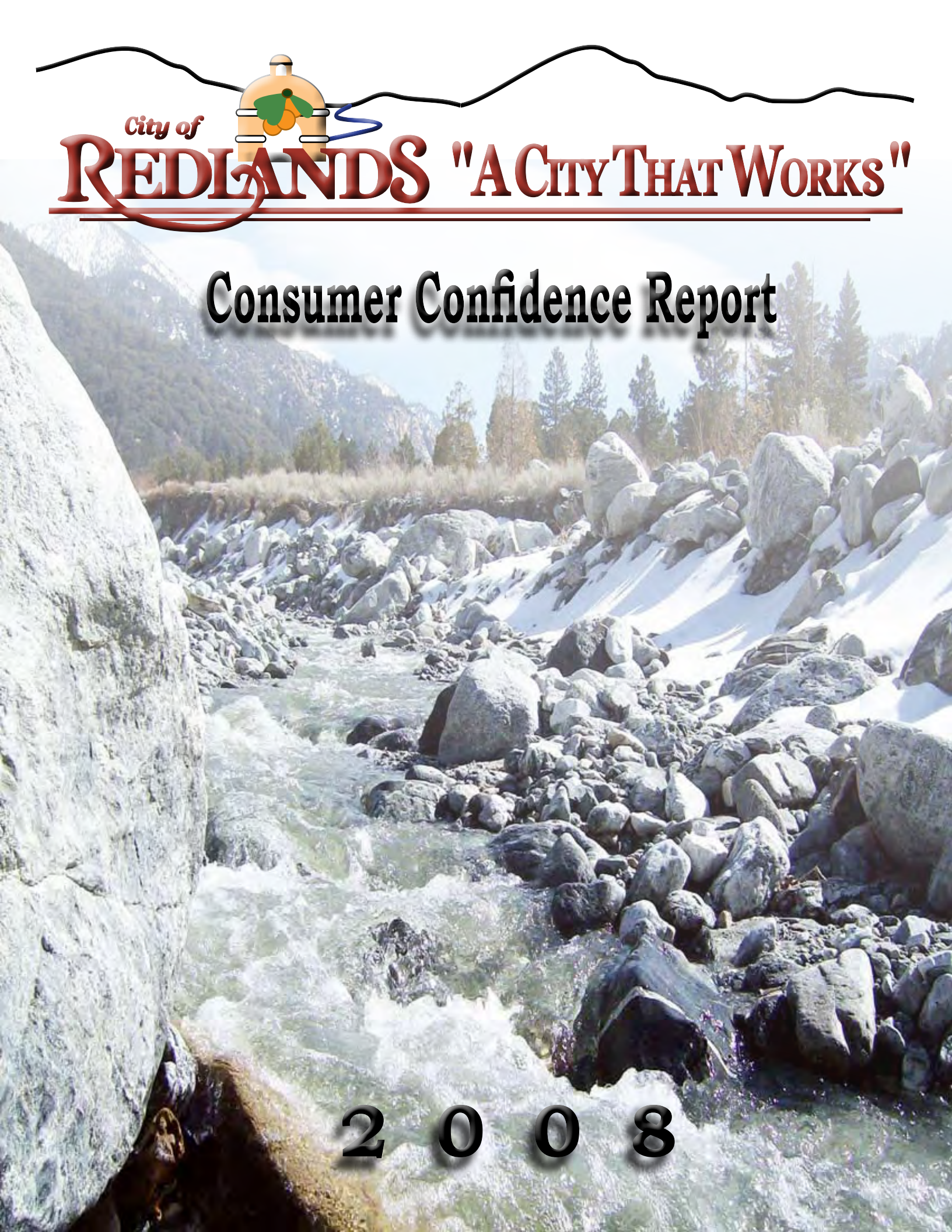
City of REDLANDS "A City That Works"

# Consumer Confidence Report



2008

# Redlands' Water Sources

**The majority of water, over 40 percent, delivered to the city's consumers in 2007 was from groundwater sources pumping from the Bunker Hill groundwater basin. This water is pumped up through a system of wells, disinfected, and sent directly into the distribution system or into enclosed reservoirs. Upon demand, the water either flows by gravity or is pumped from the reservoirs into the distribution system.**

**Other sources of water include the Santa Ana River which is treated at the city's Horace Hinckley surface water treatment plant, and Mill Creek which is treated at Henry Tate surface water treatment plant. These two water treatment plants treat both local surface water and purchased water delivered from Northern California via the California State Water Project to meet customer demands.**

## Tours

**Groups are welcome to tour our treatment facilities in order to learn how drinking water is treated and delivered to customers. For information on touring our facilities please contact us at (909) 798-7698**

Please contact us if you have any questions regarding the information presented in this report.

City of Redlands
Municipal Utilities &
Engineering Department
PO Box 3005
35 Cajon Street, Suite 15A
Redlands, CA 92373
**(909) 798-7698**

**THIS REPORT CONTAINS IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER. TRANSLATE IT OR SPEAK WITH SOMEONE WHO UNDERSTANDS IT.**

***ESTE INFORME CONTIENE INFORMACIÓN MUY IMPORTANTE SOBRE SU AGUA POTABLE. TRADÚZCALO O HABLE CON ALGUIEN QUE LO ENTIENDA BIEN.***

**www.redlandswater.org**

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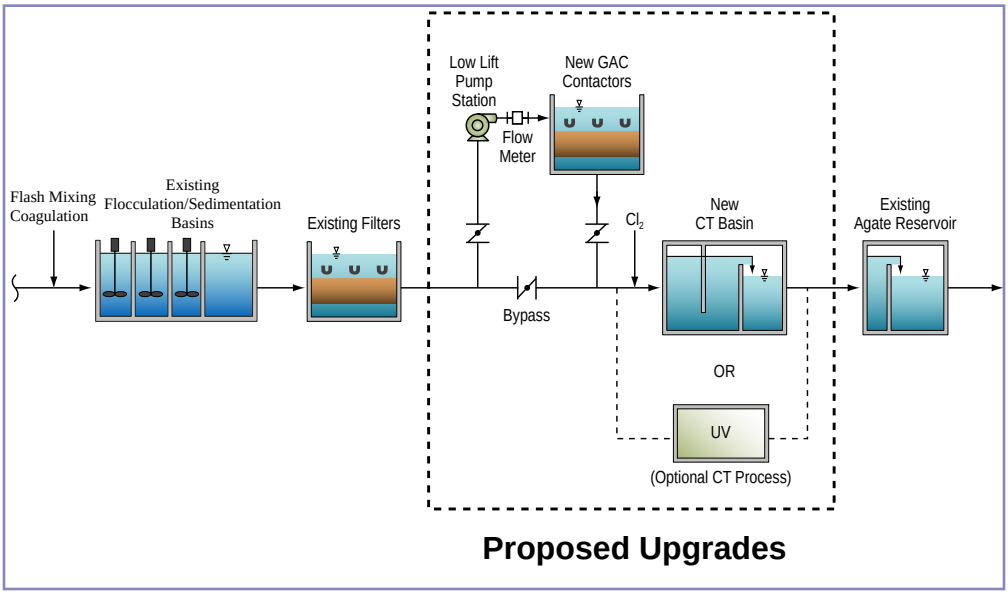
# Investing In Your Future

Over the past few months the Municipal Utilities and Engineering Department has been working on the preliminary design for upgrades to its Horace Hinckley surface water plant to meet new EPA Disinfection/Disinfection By-products regulations. These upgrades are estimated to cost $18 million and are required to be completed in 2012. Design for the project is slated to start this year and is anticipated to take nearly a year to complete. The project will likely include the installation of activated carbon filter beds, modifications to the existing filters, new static mixer, and the installation of storage and boosting facilities.




**Proposed Upgrades**

## Water Source Protection

Redlands Municipal Utilities and Engineering Department is committed to protecting its water sources from possible contamination. Source water assessments have been completed for all of our drinking water supplies.

The assessments help to identify the vulnerability of drinking water supplies to contamination from typical human activities.

These assessments are intended to provide the basic information necessary for us to develop programs to protect our drinking water supplies.

Possible contaminants can originate from: agricultural drainage, urban runoff, septic systems, sewer collection systems, junk/scrap/salvage operations, crop irrigation, underground storage tanks at automobile gas stations, and illegal dumping.

Anyone interested in receiving a copy of the source water assessment should contact Pat McKasy, Regulatory Compliance Officer-Water at (909) 798-7588 ext. 2.

You can do your part to protect our precious water sources by properly disposing of household hazardous wastes.

To find out how to properly dispose of hazardous waste so is does not contaminate groundwater, please phone our Customer Service Office at (909) 798-7529, or visit redlandssolidwaste.org

From **January 1, 2007** to **December 31, 2007**, the City of Redlands conducted over 14,000 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, as detected in the water, does not necessarily indicate that the water poses a health risk.

## Primary Drinking Water Standards

| Chemical / Constituent | MCL, (NL), or [MRDL] | PHG, {MCLG}, (NL),or [MRDLG] | Redlands Water | Range of Detection | Typical Source of Contaminant |
|---|---|---|---|---|---|
| ***Microbiological Contaminants*** | | | | | |
| Heterotrophic Plate Count | TT | N/A | 72 | N/A | Found naturally in the environment |
| ***Inorganic Contaminants*** | | | | | |
| Aluminum (ppm)* | 1 | 0.6 | 0.02 | ND - 0.14 | Erosion of natural deposits |
| Chromium (ppb)* | 50 | 100 | 0.8 | ND - 6.4 | Erosion of natural deposits |
| Fluoride (ppm)* | 2 | 1 | 0.68 | 0.3 - 0.95 | Erosion of natural deposits |
| Nitrate as NO3 (ppm) | 45 | 45 | 15.0 | 3.6- 25.0 | Runoff and leaching from fertilizer use; leaching from septic tanks and sewers |
| Nitrate + Nitrite [as N] (ppm)* | 10 | 10 | 3.0 | 2.3 - 4.5 | |
| Nitrate as Nitrogen (ppm) | 10 | 10 | 3.4 | 0.8 - 5.7 | |
| Perchlorate (ppm) | 6 | 6 | 2.9 | ND-4.7 | A result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts. |
| ***Synthetic Organic Contaminants*** | | | | | |
| Dibromochloropropane (DBCP)(ppt)* | 200 | 1.7 | 1.0 | ND-16 | Banned nematocide in soils due to leaching from former use on citrus trees |
| ***Disinfection By-Products, Disinfectant Residuals, Disinfection By-Product Precursors*** | | | | | |
| Total Trihalomethanes (ppb) | 80 | N/A | 27.9 | ND – 88.0 | By-product of drinking water chlorination |
| Halocetic Acids (ppb) | 60 | N/A | 10.0 | ND – 26.0 | By-product of drinking water disinfection |
| Chlorine (ppm) | 4 | 4 | 0.5 | 0.01 - 1.62 | Drinking water disinfectant added for treatment |
| Total Organic Carbon (ppm) | TT | N/A | 1.1 | 0.5 - 2.1 | Various natural and man made sources |
| ***Radioactive Contaminants*** | | | | | |
| Gross Alpha Activity (pCi/L) | 15 | N/A | 6.3 | 5.2 - 7.4 | Erosion of natural deposits |
| Gross Beta Activity (pCi/L) | 50 | N/A | 3.4 | N/A | Erosion of natural deposits |
| Total Tritium (pCi/L)* | 20,000 | N/A | 217 | 190 - 277 | Decay of natural and man made deposits |
| Radium 226 + 228 (pCi/L)* | 5 | N/A | 0.95 | 0.8 - 1.11 | Erosion of natural deposits |
| Strontium 90 (pCi/L) | 8 | 8 | 1.7 | N/A | Erosion of natural deposits |
| Uranium (pCi/L) | 30 | 0.5 | 4.4 | 2.7 – 6.7 | Erosion of natural deposits |

## Terms Used In This Report

**Maximum Contaminant Level (MCL):** The highest level of a ccontaminant 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 (US EPA).

**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.. MRDLGs are set by the US EPA.

**ND:** Not detectable at testing limit.

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

**Units of Measure:**

Parts per million (ppm) or milligrams per liter (mg/L).
Parts per billion (ppb) or micrograms per liter (ug/L).
Parts per trillion (ppt) or nanograms per liter (ng/L).
Picocuries per liter (pCi/L): a measure of radiation.
Umhos/cm: A measure of conductivity in water.

**Redlands Water:** Water source site average for water supplied to customers.

**Range of Detection:** The range (lowest to highest) of detected contaminants.

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

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

**N/A:** Not applicable

## Secondary Drinking Water Standards (Aesthetic Standards)

| Chemical / Constituent | MCL | Redlands Water | Range of Detection | Typical Source Of Contaminant |
|---|---|---|---|---|
| Aluminum (ppb)* | 200 | 25 | ND – 140 | Erosion of natural deposits |
| MBAS (Foaming Agents) (ppb)* | 500 | 2.0 | ND – 50 | Municipal and industrial waste discharges |
| Iron (ppb)* | 300 | 14 | ND – 300 | Leaching from natural deposits; industrial wastes |
| Odor -Threshold (units)* | 3 | 2 | ND – 4 | Naturally occurring organic materials |
| Total Dissolved Solids (TDS) (ppm)* | 1,000 | 214 | 110-370 | Runoff/leaching of natural deposits |
| Specific Conductance (umhos/cm)* | 1,600 | 338 | 200 – 580 | Substances that form ions in water |
| Chloride (ppm)* | 500 | 10 | ND – 34 | Runoff / leaching of natural deposits |
| Sulfate (ppm)* | 500 | 25 | 12 – 51 | Runoff / leaching of natural deposits |
| Manganese (ppb)* | 50 | 2 | ND – 41 | Leaching from natural deposits |
| Color (units)* | 15 | 0.2 | ND – 3 | |
| Copper (ppm)* | 1.0 | 0.006 | ND – 0.4 | Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |

## 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 | 19 | 7 – 72 | Generally found in ground and surface water |
| Hardness (ppm)* | N/A | N/A | 145 | 65 – 230 | Generally found in ground and surface water |

## Additional Monitoring (State Regulated & Unregulated Contaminants with no MCLs)

| Chemical/Constituent | Notification Level | Redlands Water | Range of Detection |
|---|---|---|---|
| Trichlorotrifluoroethane(ppb)* | N/A | 3.3 | 3.1 - 3.4 |
| Bromide (ppb)* | N/A | 20 | ND – 120 |
| Vanadium (ppb)* | 50 | 2.0 | ND – 12 |
| Radon (pCi/L); | N/A | 756 | 682 - 793 |
| Calcium (ppm)* | N/A | 44 | 20 - 76 |
| Magnesium (ppm)* | N/A | 8.9 | 3.9 –13 |
| Potassium (ppm)* | N/A | 2.6 | 1.6 - 3.8 |
| Bicarbonate (ppm)* | N/A | 106 | 51 – 160 |
| Alkalinity (ppm)* | N/A | 104 | 71 - 131 |
| pH (units)* | N/A | 7.7 | N/A |
| Silica (ppm)* | N/A | 19 | 15 – 23 |
| Hexavalent Chromium (ppb)* | N/A | 0.7 | ND - 6.9 |
| Langelier Index at 25C* | N/A | 0.1 | N/A |
| Boron (ppb)* | 1,000 | 2.0 | ND – 110 |

### Information About Radon

Radon is a naturally occurring gas formed from the normal radioactive decay of uranium. In our testing in 2007, radon was detected in the finished water supply. There are no federal regulatory limits prescribed for radon levels in drinking water. However, the pathway to exposure for radon occurs primarily due to its presence in the air. Exposure over a long period of time to air containing radon may cause adverse health effects.

** The State allows monitoring for some contaminants less than once per year because these contaminants do not change frequently. Some of data, though representative, is more than one year old.*

## Important Facts From the US EPA About Drinking Water

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, agricultural application, 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 water is safe to drink, the United States Environmental Protection Agency (US EPA) and the California Department of Public Health (DPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

DPH regulations also establish limits for contaminants in bottled water to 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 people such as people with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons, and infants can be particularly at risk from infections. For these people, advice should be sought 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).*

## Sampling Results Showing Treatment of Surface Water Sources

Turbidity is a measure of the cloudiness of water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system. Turbidity results which meet performance standards are considered to be in compliance with filtration require-

| | | |
|---|---|---|
| **Treatment Technique** | Conventional Filtration | **Turbidity Performance Standard No. 1 (TPS No. 1):** |
| **Lowest Monthly % of Samples Meeting TPS No. 1** | 100% | The turbidity level of the combined filter effluent shall be less than or equal to 0.3 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. |
| **Highest single turbidity measurement during 2007** | 1.5 | |
| **Number of Violations to Any Surface Water Treatment Regulations** | None | |

## Lead and Copper Analysis Results

The Municipal Utilities and Engineering Department performs an analysis of lead and copper in the water of residential homes in our service area every three years. The last round of testing was conducted in 2005. While neither lead nor copper have been detected in our water sources, when water comes into contact with residential plumbing containing lead and/or copper, they can leach into the household water system. Of 30 samples tested, none exceeded the Notification Level (NL) for lead or copper. The 90th percentile value for lead in the water samples was 5.3 ppb as compared to an NL of 15 ppb, while the 90th percentile value for copper samples was 0.61 ppm as compared to an NL of 1.3 ppm. The next round of voluntary residential testing will be in the June - September, 2008 period. Some customers whose homes meet the EPA's criteria for a sampling site will be sent letters asking for volunteers to take a sample of their tap water. All volunteers will be given a rebate of $15.00 on their Municipal Utilities and Engineering bill following the analysis of the samples, along with a copy of the sampling results from their home.

# - Get To Know -

# Caroline Park

**Are you interested in planting Southern California-friendly landscaping but are unsure of where to begin? Try visiting the water conservation demonstration garden at Caroline Park!**

**Caroline Park, located between Sunset Drive and Poppy Road in Redlands, was donated to the City of Redlands in 1929 by Olivia Phelps Stokes in memory of her sister Caroline.**

**The water conservation native plant garden is located in the northwest corner of the park along Mariposa and Poppy Road. Drought tolerant native costal and interior Southern California plant species are featured.**

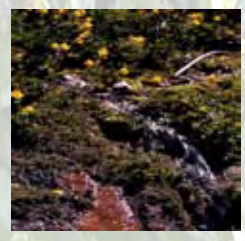
**The plant types are identified for nature study purposes and home garden planning. The demonstration garden is an example of "drought tolerant landscaping" which requires minimal watering and is encouraged by water conservation experts.**

**In addition to featuring a variety of native plants and trees, the water conservation native plant garden is irrigated by four basic types of irrigation systems – each suited for plant location and types.**

**Examples of Drought Tolerant Plants found at Caroline Park.**

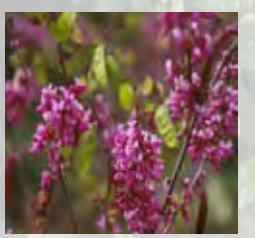
**Concha**

**Yankee Point**



**Monkey Flower**

**Woolly Blue Curls**



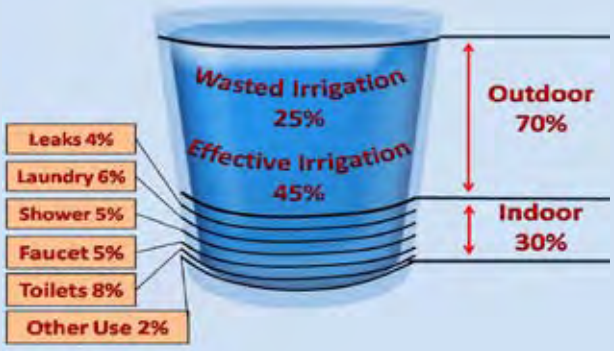
**California Redbud**

**Native Buckwheat**

# City of REDLANDS Water Conservation

**On average, in a typical single family residential home, 25% of the water is wasted on inefficient landscape irrigation. This could equal hundreds of dollars a year! You can reduce this waste by adjusting and/or fixing your sprinklers and timers. It is also possible to eliminate this waste completely by planting California-friendly landscaping!**

## Residential Water Use




## Conservation Tips

1. Turn off the water when you brush your teeth.
2. Shorten your showers by 1 or 2 minutes.
3. Wash only full loads of laundry.
4. Install a smart sprinkler controller.
5. Fix all leaks as soon as possible.
6. Use organic mulch around plants to reduce evaporation.
7. Use a broom instead of hose to clean driveways and sidewalks.
8. Check sprinklers for leaks and overspray.
9. Use a pool cover to reduce evaporation.
10. Spread the word about conservation!

## Water Audits

**Log on to redlandswater.org to schedule a water audit of your residence or business, free of charge. Learn about ways to eliminate water waste and save money!**

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