

# ANNUAL WATER QUALITY REPORT

*Water testing performed in 2007*



PWS ID#: 4910005

## Utility Introduction

We are pleased to provide you with this year's Annual Water Confidence Report. In 2007, the City of Healdsburg tested hundreds of water samples from our source water wells and sample stations situated throughout the City. Independent, certified laboratories analyzed samples for more than 100 water quality constituents and characteristics. Those tests show that Healdsburg's drinking water meets all state and federal health standards. We want to keep you informed about the excellent water and services we deliver to you. We are committed to providing our customers with a safe, palatable and dependable supply of drinking water.

Included in this report is a summary of results from water quality tests, as well as an explanation of where our water comes from and information on how to interpret the data. This "Consumer Confidence Report" is required by law and, we are proud to share our results with you. Please read them carefully.

## 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, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

## Filtration Treatment Plant

The City's potable water micro-filtration treatment plant is nearing completion of its second year of successful operation. Throughout this period, the water treatment plant has performed reliably and has produced an uninterrupted stream of highly treated micro-filtered water that has consistently exceeded all water quality objectives.

To protect and preserve the water treatment plant, and other valuable City assets, the City recently upgraded its preventative maintenance program to a modern database platform. The new preventative maintenance program will facilitate City maintenance personnel in providing effective and efficient equipment maintenance thereby minimizing the possibility of equipment failure, reducing life-cycle maintenance costs, and ensuring the longest operating life possible.



## FYI

**Copper** - The governing regulation to determine whether copper is present above or below the standard is based on the 90th percentile value for the most recent testing. The 90th percentile is the ninth highest value measured of ten test results. The 90th percentile value for the 2005 testing performed in Healdsburg was =1300 ppb. The maximum contaminant level (MCL), or action level for copper is 1300 ppb. Two of the 32 Healdsburg residential test sites exceeded the action level. A monitoring program is underway to optimize treatment to reduce the amount of copper at the customer's tap.

**Lead** - The governing regulation to determine whether lead is present above or below the standard is based on the 90th percentile value for the most recent testing. The 90th percentile is the ninth highest value measured of ten test results. The 90th percentile value for the 2005 testing performed in Healdsburg was < 5 ppb. The maximum contaminant level, or action level for lead is <15 ppb. None of the 32 Healdsburg test sites exceeded the action level.

**Fluoridation** - Water is dosed with fluoride for dental benefit. The water is dosed to a concentration of 0.8 milligrams per liter per State Department of Public Health regulation. Knowing that the water is fluoridated could potentially affect decisions for you and your family regarding fluoride supplements and treatments.

**Manganese** - The concentration in some production wells exceeds the secondary MCL. Manganese in excess of the MCL can chemically react with the chlorine added to disinfect the water and form a dark colored precipitate. The precipitate can stain plumbing fixtures such as sinks and toilet bowls, and may cause staining of light colored laundry. The City's microfiltration treatment process removes nearly all oxidized manganese. The average manganese concentration was 6.7 ppb in 2007. The MCL for manganese is 50 ppb.

## Source Water Description

The City of Healdsburg delivers treated water to its customers from two well fields located along the Russian River and one located along Dry Creek. 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 other matter, and in some cases radioactive material and can pick up substances resulting from the presence of animals or from human activity.

## Customer Views Welcome

If you are interested in learning more about your water utility or water quality, you can direct your questions, concerns or comments to the Public Works Department at (707) 431-3346.

Citizens may also address comments directly to the Healdsburg City Council, which meets on the first and third Monday of each month at 7:00 p.m., at 401 Grove Street. City Council meetings are open to the public. [www.ci.healdsburg.ca.us](http://www.ci.healdsburg.ca.us).

## Drinking Water Source Assessment

The City of Healdsburg prepared a drinking Water Source Assessment in December 2001 and is in accordance with guidelines issued by the State Department of Public Health. The purpose of the Source Assessment is to determine if the water sources of the community is vulnerable to contamination, and is available for review at the Community Development Center, 435 Allan Court, Healdsburg, CA. The Source Assessment concludes that the water supply is vulnerable to the following:

| VULNERABILITIES                      | HAZARDS                           | VULNERABILITIES                           | HAZARDS              |
|--------------------------------------|-----------------------------------|---|----------------------|
| Illegal dumping/spills               | Chemical/biological               | Animal operations                         | Biological/turbidity |
| Transportation corridors             | Chemical                          | Repair shops                              | Chemical             |
| Leaking tanks                        | Chemical                          | Gravel mining                             | Turbidity            |
| Agricultural activities/<br>drainage | Chemical/biological/<br>turbidity | Government equipment/<br>maintenance yard | Chemical             |
| Sewer/septic systems                 | Biological                        |   |                      |

## Substances That Could Be in Water

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.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Department of Public Health 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. 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 water poses a health risk.

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 can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and Herbicides**, that 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 which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

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

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Treated Water Quality Summary

Listed below are 23 substances or water quality characteristics detected in Healdsburg's drinking water. There are nearly 100 organic and inorganic substances that the City tested for but did not detect. The State requires us to monitor for certain substances less than once a year because the concentrations do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

| REGULATED SUBSTANCES  |                 |                                  |                           |                                    |                                |           |   |
|---|-----------------|----------------------------------|---------------------------|------------------------------------|--------------------------------|-----------|---|
| SUBSTANCE<br>(UNIT OF MEASURE)  | YEAR<br>SAMPLED | MCL<br>[MRDL]                    | PHG<br>(MCLG)<br>[MRDLG]  | AMOUNT<br>DETECTED                 | RANGE<br>LOW-HIGH              | VIOLATION | TYPICAL SOURCE  |
| <b>Arsenic</b> <sup>1</sup> (ppb)   | 2007            | 10                               | 0.004                     | 2.5                                | 2.4–2.6                        | No        | Erosion of natural deposits; Runoff of vineyards & orchards   |
| <b>Barium</b> (ppm)   | 2007            | 1                                | <2000                     | 0.10943                            | 0.036–0.16                     | No        | Erosion of natural deposits   |
| <b>Chlorine</b> (ppm)   | 2007            | [4.0 (as Cl <sub>2</sub> )]      | [4 (as Cl <sub>2</sub> )] | 0.65                               | 0.23–1.63                      | No        | Drinking water disinfectant added for treatment   |
| <b>Combined Radium</b><br>(pCi/L)   | 2006            | 5                                | (0)                       | 0.0683                             | ND–0.3240                      | No        | Erosion of natural deposits   |
| <b>Fluoride</b> <sup>2</sup> (ppm)  | 2007            | 2                                | 1                         | 0.79                               | 0.13–1.14                      | No        | Water additive that promotes strong teeth particularly in children; Leaching from natural deposits          |
| <b>Gross Alpha Particle Activity</b> (pCi/L)  | 2007            | 15                               | (0)                       | 0.1                                | 0.1–0.1                        | No        | Erosion of natural deposits   |
| <b>Haloacetic Acids</b><br>(ppb)  | 2007            | 60                               | NA                        | 12.55                              | ND–33.30                       | No        | Disinfection by-products  |
| <b>Nitrate [as nitrate]</b><br>(ppm)  | 2007            | 45                               | <45                       | 2.29                               | ND–5.8                         | No        | Runoff and leaching from fertilizer use; Leaching from septic tanks and sewage; Erosion of natural deposits |
| <b>TTHMs [Total Trihalomethanes]</b><br>(ppb)   | 2007            | 80                               | NA                        | 17.4                               | 2.27–32.24                     | No        | By-product of drinking water chlorination   |
| <b>Turbidity–Gauntlett Well Field &amp; Gauntlett Micro-Filtration Facility</b> <sup>3</sup><br>(NTU)                         | 2007            | 1.0 (TT=95% of samples <0.1 NTU) | NA                        | <0.1 (NTU)                         | NA                             | No        | Soil runoff   |
| <b>Turbidity Dry Creek Well Field (Groundwater)</b> <sup>3</sup><br>(NTU)   | 2007            | 5.0 (TT=95% of samples <1.0 NTU) | NA                        | 0.31 (NTU)                         | NA                             | No        | Soil runoff   |
| <b>Turbidity- Fitch Mountain Well Field (Groundwater Under Surface Water Influence)</b> <sup>3</sup> (NTU)                    | 2007            | 5.0 (TT=95% of samples <0.3 NTU) | NA                        | 0.22 (NTU)                         | NA                             | No        | Soil Runoff   |
| Tap water samples were collected from 31 sample sites throughout the community (Lead was not detected at the 90th percentile) |                 |                                  |                           |                                    |                                |           |   |
| SUBSTANCE<br>(UNIT OF MEASURE)  | YEAR<br>SAMPLED | ACTION<br>LEVEL                  | MCLG                      | AMOUNT<br>DETECTED<br>(90TH% TILE) | SITES ABOVE<br>ACTION<br>LEVEL | VIOLATION | TYPICAL SOURCE  |
| <b>Copper</b> (ppm)   | 2005            | 1.3                              | <1.3                      | 1.3                                | 2                              | No        | Internal corrosion of household plumbing systems  |
| <b>Lead</b> (ppb)   | 2005            | 15                               | <15                       | 0                                  | 0                              | No        | Internal corrosion of household plumbing systems  |

## SECONDARY SUBSTANCES

| SUBSTANCE<br>(UNIT OF MEASURE)                  | YEAR<br>SAMPLED | SMCL  | PHG<br>(MCLG) | AMOUNT<br>DETECTED | RANGE<br>LOW-HIGH | VIOLATION | TYPICAL SOURCE                                       |
|---|-----------------|-------|---------------|--------------------|-------------------|-----------|--|
| Aluminum (ppb)                                  | 2007            | 200   | NS            | 120                | 120–120           | No        | Erosion of natural deposits                          |
| Chloride (ppm)                                  | 2007            | 500   | NS            | 6.98               | 6.0–7.7           | No        | Runoff/leaching from natural deposits                |
| Iron (Raw Water) <sup>4</sup> (ppb)             | 2007            | 300   | <300          | 13.68              | ND–40             | No        | Leaching from natural deposits                       |
| Iron (Treated Water) <sup>4</sup> (ppb)         | 2007            | 300   | <300          | 36.80              | ND–240            | No        | Leaching from natural deposits                       |
| Manganese (Raw Water) <sup>4</sup><br>(ppb)     | 2007            | 50    | <50           | 26.24              | ND–140            | No        | Leaching from natural deposits                       |
| Manganese (Treated Water) <sup>4</sup><br>(ppb) | 2007            | 50    | <50           | 12.08              | ND–98             | No        | Leaching from natural deposits                       |
| Specific Conductance<br>( $\mu$ S/cm)           | 2007            | 1,600 | NS            | 318.33             | 270–370           | No        | A measure of substances that form ions when in water |
| Sulfate (ppm)                                   | 2007            | 500   | NS            | 15.83              | 14–19             | No        | Runoff/leaching from natural deposits                |
| Total Dissolved Solids (ppm)                    | 2007            | 1,000 | NS            | 183.33             | 150–220           | No        | Runoff/leaching from natural deposits                |
| Zinc (ppm)                                      | 2007            | 5     | NS            | 0.065              | 0.065–0.065       | No        | Runoff/leaching from natural deposits                |

## UNREGULATED SUBSTANCES

| SUBSTANCE<br>(UNIT OF MEASURE) | YEAR<br>SAMPLED | AMOUNT<br>DETECTED | RANGE<br>LOW-HIGH | TYPICAL SOURCE                  |
|--------------------------------|-----------------|--------------------|-------------------|---------------------------------|
| Alkalinity (ppm)               | 2007            | 146.66             | 120–180           | Natural geology                 |
| Bicarbonate (ppm)              | 2007            | 178.33             | 150–220           | Natural geology                 |
| Calcium (ppm)                  | 2007            | 30                 | 25–39             | Natural geology                 |
| Hardness (ppm)                 | 2007            | 167.5              | 147–195           | Natural geology                 |
| Magnesium (ppm)                | 2007            | 22.5               | 18–29             | Natural geology                 |
| Sodium (ppm)                   | 2007            | 8.82               | 5.2–10            | Natural geology                 |
| pH (pH Units)                  | 2007            | 7.30               | 6.70–7.70         | Measure of the acidity of water |

### Footnote: \_\_\_\_\_

<sup>1</sup> Effective 01/23/2006, the Federal Arsenic MCL is 10 ppb. A new state MCL has not yet been adopted and remains as 50 ppb.

<sup>2</sup> Fluoride is regulated as a water treatment.

<sup>3</sup> Turbidity is a measure of the cloudiness of the water. A higher turbidity value indicates more particles in the water. The particles themselves are not usually a health concern, but they may shield microorganisms from the effects of disinfection (chlorination). Turbidity is monitored because it is a good indicator of water quality. The results are for water sourced from Gauntlett Well Field and filtered at the Gauntlett Micro-Filtration Plant.

<sup>4</sup> Raw water before treatment.

## Definitions

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

**$\mu$ S/cm (microsiemens per centimeter):** A unit expressing the amount of electrical conductivity of a solution.

**MCL (Maximum Contaminant Level):** 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.

**MCLG (Maximum Contaminant Level Goal):** 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. EPA.

**MRDL (Maximum Residual Disinfectant**

**Level):** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. EPA.

**NA:** Not applicable

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**NS:** No standard

**NTU (Nephelometric Turbidity Unit):** A turbidity unit is a measurement of the clarity of the water.

**pCi/L (picocuries per liter):** A measure of radioactivity.

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

**PHG (Public Health Goal):** 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 EPA.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**SMCL (Secondary Maximum Contaminant Level):** Are set to protect the odor, taste, and appearance of drinking water.

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