



ANNUAL  
WATER  
QUALITY  
REPORT

*Water testing performed in 2008*



CITY OF FORT BRAGG



PWS ID#: 2310001

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



## Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2008. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

## Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

## 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.

## Where Does My Water Come From?

The City of Fort Bragg Water Company customers are fortunate because they enjoy an abundant water supply from the Noyo River and the Hare Creek watersheds. Both sources are considered to be surface water and are available year round. The Noyo River water is pumped up to an elevation of 340 feet above the river and gravity causes the water to flow to the Surface Water Treatment Plant raw water ponds. The Newman Gulch and Water Fall Gulch both gravity feed to the same pond and can be individually controlled.

To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed Web site at [www.epa.gov/surf/](http://www.epa.gov/surf/).

## How Is My Water Treated?

The treatment plant is operated by computerized, modular treatment units and continuous water quality monitoring equipment. The treatment process consists of a series of steps. First, raw water is drawn from our water source and placed into ponds. The water is then pumped through a mixer where polyaluminum hydroxychlorosulfate and chlorine are added. The addition of these substances causes small particles to adhere to one another (called floc) and oxidize organics, making them large enough to be trapped in the first of a two-stage filtration process. In the second step, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. Chlorine is added again as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine, adding the smallest quantity necessary to protect the safety of your water without compromising taste.) Finally, a corrosion inhibitor (used to protect distribution system pipes) is added before the water is pumped to our two, 1.5 million gallon tanks, through miles of pipeline, and into your home or business.

The operators perform dozens of tests daily to confirm the automated equipment and the efficient operation of each process. Records are maintained of their results and of any changes made to the operation or chemicals.

## Lead and Drinking Water

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. We are 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 2 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 minimize exposure is available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## 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 (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. 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.

### Community Participation

You are invited to participate in our public forum and to voice your concerns about your drinking water. We meet the second and fourth Monday of each month beginning at 6:00 p.m. at Town Hall, 363 North Main Street.

### Source Water Assessment

In April 2008, a Drinking Water Source Water Assessment was conducted by City staff through the state of California Drinking Water Source Assessment Protection Program and AWWA guidelines for the City of Fort Bragg water sources. A copy of this assessment is available at City Hall, 416 North Franklin Street. There have been no contaminants detected in the water supply; however, the state's review determined that the city's water sources are considered vulnerable to the following activities: historical and currently used dumps and landfills, known contaminant plumes, military installations, underground storage tanks (confirmed leaking tanks), managed forests, illegal activities, unauthorized dumping, and low-density septic systems (less than one per acre).

## Questions?

For more information about this report, or for any questions relating to your drinking water, please call Alan Hodge, Treatment Superintendent, at (707) 961-2823.

## Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants in the raw water sources. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

The state allows us to monitor for certain substances less than once per year because the concentrations of these substances 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													
				Noyo River		Water Fall Gulch		Newman Gulch		Treated Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppm)	2008	1	0.6	0.016	NA	0.05	NA	0.17	NA	0.037	NA	No	Erosion of natural deposits; residue from some surface water treatment processes
Barium (ppm)	2008	1	2	0.023	NA	0.062	NA	0.034	NA	0.032	NA	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium (ppb)	2008	50	(100)	NA	NA	0.63	NA	NA	NA	NA	NA	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Gross Alpha Particle Activity (pCi/L)	2006	15	(0)	0.59	NA	0.36	NA	0.48	NA	NA	NA	No	Erosion of natural deposits
Haloacetic Acids (ppb)	2008	60	NA	NA	NA	NA	NA	NA	NA	36	26–44	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2008	80	NA	NA	NA	NA	NA	NA	NA	34	26–41	No	By-product of drinking water chlorination
Turbidity <sup>1</sup> (NTU)	2008	TT	NA	0.36	NA	0.57	NA	2.6	NA	0.16	0.03–0.16	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2008	TT	NA	NA	NA	NA	NA	NA	NA	100%	NA	No	Soil runoff

## SECONDARY SUBSTANCES

				Noyo River		Water Fall Gulch		Newman Gulch		Treated Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2008	200	NS	16	NA	50	NA	170	NA	37	NA	No	Erosion of natural deposits; residual from some surface water treatment processes
Chloride (ppm)	2008	500	NS	9.1	NA	17	NA	15	NA	NA	NA	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2008	15	NS	NA	NA	NA	NA	15	NA	NA	NA	No	Naturally occurring organic materials
Corrosivity (Units)	2008	Non-corrosive	NS	NA	NA	NA	NA	NA	NA	10.14	NA	No	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors
Foaming Agents [MBAS] (ppb)	2008	500	NS	NA	NA	320	NA	170	NA	NA	NA	No	Municipal and industrial waste discharges
Iron (ppb)	2008	300	NS	NA	NA	NA	NA	210	NA	NA	NA	No	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2008	50	NS	26	NA	NA	NA	NA	NA	NA	NA	No	Leaching from natural deposits
Odor-Threshold (TON)	2008	3	NS	12	NA	3.2	NA	20	NA	4.3	NA	No	Naturally occurring organic materials
Specific Conductance (micromhos)	2008	1,600	NS	140	NA	79	NA	67	NA	110	NA	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2008	500	NS	4.6	NA	2.7	NA	2.4	NA	3.7	NA	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2008	1,000	NS	91	NA	40	NA	39	NA	63	NA	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2008	5	NS	NA	NA	0.57	NA	NA	NA	NA	0.03-0.16	No	Soil runoff

## OTHER SUBSTANCES

		Noyo River		Water Fall Gulch		Newman Gulch		Treated Water	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
Magnesium (ppm)	2008	5.5	NA	1.9	NA	1.6	NA	3.4	NA
Sodium (ppm)	2008	12	NA	14	NA	13	NA	11	NA

<sup>1</sup>Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

## Definitions

**AL (Regulatory Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that 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 the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

**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.

**micromhos:** A measure of electrical conductance.

**MRDL (Maximum Residual Disinfectant Level):** The level of a disinfectant added for water treatment that may not be exceeded at the customer'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.

**NS:** No standard.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**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).

**TON (Threshold Odor Number):** A measure of odor in water.

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