

Water Quality Concerns

Arsenic — The California Department of Public Health continues to research the health effects of low levels of arsenic, a mineral known to cause cancer in humans at high concentrations and linked to other health effects such as skin damage and circulatory problems. No arsenic has been found in Fairfield's drinking water.

Lead & Copper — Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible lead levels may be higher in some homes in the community as a result of materials used in house plumbing. None of the samples Fairfield tested in 2008 exceeded the Action Levels for lead or copper. The next round of testing is in 2011.

Security — The City of Fairfield has performed a comprehensive vulnerability assessment for the water system resources. If you should see items of concern or notice anything suspicious, please contact the City of Fairfield at 707.428.7594.

Sensitive Populations — Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons (such as people with HIV/AIDS, people who are undergoing chemotherapy and people who have undergone organ transplants), infants, and some elderly people can be particularly at risk for serious health impacts from infections. These people should seek advice about drinking water from their health care providers.

Pharmaceuticals in Drinking Water — During 2009, there were a number of articles published about the detection of medications and personal care products in drinking water. A variety of chemicals, including medications, caffeine, fragrances, vitamins, and cosmetics, have been detected at extremely low levels in source water, including surface water sources that the City of Fairfield treats for drinking water purposes. If you would like a summary of the findings, please contact **Laura de Albidress at 707.428.7680 x107**.

How do these chemicals get into the environment and into our source waters? It can happen in several ways. Whenever we take medication, some of the medicine will be excreted, gets into the wastewater, and can eventually make it to untreated sources of drinking water. When we use shampoos, creams, oils, colognes, and insect repellents a small amount of this material is washed down the drain when we shower or take a bath. The presence of these chemicals in drinking water is not new. They have probably been in sources of water since people first started using these compounds and taking medications. What is new is that our ability to detect smaller and smaller amounts of these compounds has improved dramatically. With today's technology we can measure drops of a compound mixed into an amount of water equal to 1000 Olympic sized swimming pools. Research is underway to assess the risks of the traces of these compounds. The highest

concentration of any of these detected compounds is approximately 5 million times lower than the therapeutic dose.

What can you do to help? Ask your pharmacist if they can take back your unused medications; otherwise, dispose of unused medications in the trash, unless there are certain requirements that they must be disposed of by flushing down the toilet.

For More Information Call

For questions regarding this report
707.428.7680 x107

☐☐☐
Water Billing - 707.428.7346

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Water Repairs - 707.428.7415

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Water Quality Concerns
707.428.7680 x161

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After Hours Water Repairs
707.428.7300

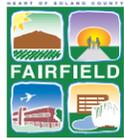
☐☐☐
EPA Safe Drinking Water Hotline
800.426.4791

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Para información en Español
707.428.7680 x107

Este folleto contiene información muy importante sobre su agua potable. Si quiere una copia en Español llame a Sandra Gonzalez al 707.428.7489. Para recibir más información en Español comuníquese con Laura de Albidress al 707.428.7680 extensión 107.

Cover: The city's newly reconstructed Waterman Water Treatment Plant. Aerial photographs (inset L to R) show before and after views of the plant site.

Customers may receive a free water conservation audit by calling 707.428-7630.



City of Fairfield
Public Works Department
1000 Webster Street
Fairfield, California 94533

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City of Fairfield Consumer Confidence Report



2009 Drinking Water



City of Fairfield
Public Works Department
1000 Webster Street
Fairfield, California 94533

Public input on drinking water issues is encouraged. You are welcome to attend a City Council meeting and have your voice heard. Council meetings are held the 1st & 3rd Tuesday of each month at 6 p.m. in the Fairfield City Council Chamber. For more information on water quality, visit our website at www.fairfield.ca.gov



Drinking Water

In order to ensure tap water is safe to drink, the US Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations establish limits for contaminants in bottled water that must provide the same protection for public health. This report includes details about where your tap water comes from, what it contains, and how it compares to State and Federal standards.

The tables below list the drinking water contaminants detected for the period January 1 - December 31, 2009. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Their presence does not necessarily indicate that water poses a health risk. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline 1.800.426.4791. □

Treated Water

DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD*					
Substance (reporting units)	MCL	PHG (MCLG)	Drinking Water		Contaminant Sources
			Range	Average	
Aluminum (ppm)	1	0.6	0.023-0.080	0.055	Erosion of natural deposits; residue from some surface water treatment processes.
Fluoride (ppm) (Natural Source)	2	1	0.49-1.00	0.858	Erosion of natural deposits, water additive that promotes strong teeth.
Nickel (ppb)	100	12	ND-13.0	1.63	Erosion of natural deposits, discharge from metal factories.
Nitrate (ppm) (as nitrate)	45	45	ND-8.19	1.83	Runoff and leaching from fertilizer use, leaching from septic tanks and sewage; erosion of natural deposits.

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

DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD					
Substance (reporting units)	MCL	PHG (MCLG)	Drinking Water		Contaminant Sources
			Range	Average	
Aluminum (ppb)	200	NA	23-80	55	Erosion of natural deposits; residue from some surface water treatment processes.
Chloride (ppm)	500	NA	8-28	13.9	Runoff/leaching from natural deposits; seawater influence.
Odor Threshold (Units)	3	NA	1.4-2.0	1.55	Naturally-occurring organic materials.
Silver (ppb)	100	NA	ND-19.3	14.1	Industrial discharges
Specific Conductance (µS/cm)	1600	NA	236-482	326	Substances that form ions when in water; seawater influence.
Sulfate (ppm)	500	NA	23.9-47.4	37.7	Runoff/leaching from natural deposits; industrial wastes.
Total Dissolved Solids (ppm)	1000	NA	193-238	218	Runoff/leaching from natural deposits.
Turbidity (NTU)	5	NA	0.026-0.130	0.054	Soil runoff.

SAMPLING RESULTS FOR SODIUM AND HARDNESS					
Substance (reporting units)	MCL	PHG (MCLG)	Drinking Water		Contaminant Sources
			Range	Average	
Hardness (ppm)	NA	NA	83-186	141	Generally found in ground and surface water.
Sodium (ppm)	NA	NA	15.4-58.2	25.8	Generally found in ground and surface water.

DETECTION OF UNREGULATED CONTAMINANTS					
Substance (reporting units)	NL	PHG (MCLG)	Drinking Water		Contaminant Sources
			Range	Average	
Boron (ppb)	1000	NA	130-200	169	Unregulated contaminant monitoring helps EPA and the State determine where certain contaminants occur and whether the contaminants need to be regulated.
Vanadium (ppb)	50	NA	ND-4.3	3.58	Unregulated contaminant monitoring helps EPA and the State determine where certain contaminants occur and whether the contaminants need to be regulated.

Source 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.

Fairfield's source water originates from Lake Berryessa and the Sacramento Delta. Water is transported for treatment through the Putah South Canal and the North Bay Aqueduct.

Treatment of source water is divided between two conventional water treatment plants, the Waterman Treatment Plant and the North Bay Regional Water Treatment Plant, (NBR is jointly owned by the Cities of Fairfield and Vacaville).

Contaminants that may be present in source water before treatment include:

Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, include synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems.

Radioactive contaminants, can be naturally-occurring or be the result of oil and gas production and mining activities. □

Source Water Assessment

Under State law, water utilities are required to check water supplies for possible contaminating activities which may put the source water at risk. This assessment does not mean that the water is necessarily affected by those activities at this time, but that the utility should be aware of these potential concerns and take necessary measures to protect the drinking water sources.

Lake Berryessa (Completed February 2003): A Source Water Assessment has been completed and shows that the most significant potential sources of contamination are illegal activities/unauthorized dumping, herbicide application, storm drain discharge points, and recreational use.

Sacramento Delta (Completed May 2003): A Source Water Assessment has been completed and shows that the most significant potential sources of contamination are recreational use, urban & agricultural runoff, grazing animals, herbicide application, and seawater intrusion.

A copy of the complete assessments and associated vulnerability summaries can be obtained through the **California Department of Public Health, Drinking Water Field Operations Branch, San Francisco District Office, 850 Marina Bay Parkway, Building P 2nd floor, Richmond, CA 94804** or **Ms. Betty Graham, Senior District Engineer, California Department of Public Health at 510.620.3454.** □

Distribution System

DISINFECTION BYPRODUCTS PRECURSORS, DISINFECTION BYPRODUCTS AND DISINFECTANT RESIDUALS					
Substance	Compliance Ratio	Range	Average	Contaminant Sources	
DBP Precursors (TOC)	More than or equal to 1.0	1.92-3.95	2.70	Various natural and man-made sources.	
Substance (reporting units)	MCL	PHG (MCLG)	Range	Highest Running Annual Average	Contaminant Sources
Trihalomethanes (ppb)	80	NA	11.0-62.0	31.4	By-product of drinking water disinfection.
Haloacetic Acids (ppb)	60	NA	3.5-11.0	7.5	By-product of drinking water disinfection.
Bromate (ppb)	10	0.1	ND-4.1	2.0	By-product of drinking water disinfection.
Substance (reporting units)	MRDL	MRDLG	Range	Average	Contaminant Sources
Chlorine (ppm)	4	4	<0.10-2.06	0.499	Drinking water disinfectant added for treatment.

TURBIDITY AS A MEASURE OF FILTER PERFORMANCE (Measures the relative clarity of the water produced.)					
Substance (reporting units)	MCL	PHG (MCLG)	Entry Point to Distribution System NBR	Waterman	Contaminant Sources
Turbidity (NTU)	TT = 1.0	NA	5.99	1.96	Soil runoff.
Measure of the cloudiness of the water.	Percentage of samples ≤0.3		96.9%	95.8%	

DETECTION OF COLIFORM BACTERIA				
Substance	MCL	MCLG	Distribution System	Contaminant Sources
Total Coliform Bacteria	5%	0	3.31 % (Highest monthly value)	Naturally present in the environment
Fecal Coliform/ <i>E. coli</i>	*	0	0	Human and animal fecal waste.

* A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or *E. coli*.

DETECTION OF LEAD AND COPPER IN CUSTOMER TAPS						
Substance (reporting units)	AL	PHG	No. of Samples (Collected in 2008)	90th Percentile Detected	No. Sites Exceeding AL	Contaminant Sources
Lead (ppb)	15	0.2	50	<5	2	Plumbing corrosion; erosion of natural deposits.
Copper (ppm)	1.3	0.3	50	0.078	0	Plumbing corrosion; erosion of natural deposits.

ABBREVIATIONS

AL - 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 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.

MCLG - Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. Set by USEPA.

MRDL - Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG - Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA - Not Applicable
ND - Not Detected
NL - Notification Level

NTU - Nephelometric Turbidity Units: The standard unit for turbidity measurements.

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 Environmental Protection Agency.

ppb - Parts per billion: or micrograms per liter (µg/L)

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

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

µS/cm - microsiemens per centimeter



Public Works Director Gene Cortright speaks at the celebration of the completion of the Waterman Expansion and Modernization Project.