Water Quality Concerns

Lead — 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. The City of Fairfield is 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 two 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 http://www.epa.gov/safewater/lead. None of the samples Fairfield tested in 2011 exceeded the Action Level for lead. The next round of testing is in 2014.

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 707.434.6100.

Sensitive Populations — 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. USEPA/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).

Pharmaceuticals in Drinking Water— 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:

Questions regarding this report
707.437.5387

Water Billing 707.428.7346

Water Repairs 707.428.7415

Water Quality Concerns
707.437.5390

After Hours Water Repairs
707.428.7300

EPA Safe Drinking Water Hotline
800.426.4791

Para información en Español
707.437.5387

Este folleto contiene información muy importante sobre su agua potable. Si quiere una copia en Español llame a Laura de Albidress al 707.437.5387.

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

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

2011 Drinking Water

Water Distribution worker tests radio read meters prior to being installed in the system.

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

Drinking Water

In order to ensure that tap water is safe to drink, the US Environmental Protection Agency (USEPA) and the California Department of Public Health (State) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State regulations also 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 USEPA standards. The tables below list the drinking water contaminants detected for the period January 1 - December 31, 2011. 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. ❑

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-San Joaquin 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-occur ring or result from urban storm water runoff, industrial or domestic waste water discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, include synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water run off, 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

"State law requires water utilities to conduct initial Source Water Assessments and Watershed Sanitary Surveys at least once every 5 years for the purpose of investigating potential contaminating activities which may affect the source water(s). The assessment findings listed below do not necessarily mean that the source waters are affected by those activities at this time, but do highlight areas of potential concern and assist in developing necessary measures to protect the drinking water sources."

Lake Berryessa: A Source Water Assessment, completed in February 2003, shows that the most significant potential sources of contamination are illegal activities/unauthorized dumping, herbicide application, storm drain discharge points, and recreational use. The most recent sanitary survey was completed in October 2006. A new update is under review and is to be completed by July 2012.

Sacramento-San Joaquin Delta: A Source Water Assessment, completed in May 2003, shows that the most significant potential sources of contamination are recreational use, urban and agricultural runoff, grazing animals, herbicide application, and seawater intrusion. The most recent sanitary survey was completed in June 2007. A new update is under review and is to be completed by August 2012.

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.❑

Water Distribution worker samples chlorine, pH, and turbidity in the water.

Treated Water

Table 1 – 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	0.021 – 0.170	0.080	Erosion of natural deposits; residue from some surface water treatment processes.
Barium (ppm)	1	2	0.034– 0.046	0.042	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits.
Fluoride (ppm)*	2	1	0.68 – 1.12	0.874	Erosion of natural deposits, water additive that promotes strong teeth.
Nitrate as NO_3 (ppm)	45	45	ND – 7.4	4.83	Runoff and leaching from fertilizer use, leaching from septic tanks and sewage; erosion of natural deposits.

*The City of Fairfield treats your water by adding fluoride to the naturally occurring level in order to help prevent dental caries in consumers. The fluoride levels in the treated water are maintained within a range of 0.7 and 1.3 ppm, as required by the California Department of Pubic Health regulations.

Table 2 – 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	21 – 170	80	Erosion of natural deposits; residual from some surface water treatment processes.
Chloride (ppm)	500	NA	10.5 – 26.5	15.9	Runoff/leaching from natural deposits; seawater influence.
Color (Units)	15	NA	< 2 – 5	< 2	Naturally-occurring organic materials.
Odor - Threshold (Units)	3	NA	1.4 – 2.0	1.48	Naturally-occurring organic materials.
Specific Conductance (uS/cm)	1,600	NA	205 – 509	338	Substances that form ions when in water; seawater influence.
Sulfate (ppm)	500	NA	28.4 – 65.4	48.4	Runoff/leaching from natural deposits; industrial wastes.
Total Dissolved Solids (ppm)	1000	NA	142 – 293	215	Runoff/leaching from natural deposits.
Turbidity (Units)	5	NA	0.031 – 0.112	0.050	Soil runoff.

Table 3 – SAMPLING RESULTS FOR SODIUM AND HARDNESS

Substance (reporting units)	MCL	PHG (MCLG)	Drinking Water		Contaminant Sources
			Range	Average	
Hardness (ppm)	NA	NA	75 - 211	137	It is the sum of cations present in the water, generally magnesium and calcium. They are usually naturally occurring.
Sodium (ppm)	NA	NA	15.7 – 48.1	28.3	Generally naturally occurring and refers to the salt present in the water.

Table 4 – DETECTION OF UNREGULATED CONTAMINANTS

Substance (reporting units)	NL	PHG (MCLG)	Drinking Water		Contaminant Sources
			Range	Average	
Boron (ppm)	1.0	NA	0.180 -0.280	0.210	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	< 3 – 3.5	< 3	

Distribution System

Table 5 – 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		1.61 – 3.03	2.21	Various natural and man-made sources
Substance (reporting units)	**MCL**	**PHG (MCLG)**	**Range**	**Highest Running Annual Average**	**Contaminant Sources**
Trihalomethanes (ppb)	80	NA	23.9 – 69.0	41.7	By-product of drinking water disinfection
Haloacetic Acids (ppb)	60	NA	4.9 – 46.0	14.2	By-product of drinking water disinfection
Bromate (ppb)	10	0.1	ND – 3.5	2.0	By-product of drinking water disinfection
Substance (reporting units)	**MRDL**	**MRDLG**	**Range**	**Running Annual Average**	**Contaminant Sources**
Chlorine (ppm)	4	4	< 0.10 – 1.46	0.547	Drinking water disinfectant added for treatment

Table 6– TURBIDITY AS A MEASURE OF FILTER PERFORMANCE

Substance (reporting units)	MCL	PHG (MCLG)	Entry Point to Distribution System		Contaminant Sources
			NBR	Waterman	
Turbidity (Units)	TT = 1.0	NA	0.29	1.90	Soil runoff
Measure of the cloudiness of the water.	Percentage of samples ≤ 0.3		100%	99.5%	

Table 7 – DETECTION OF COLIFORM BACTERIA

Substance	MCL	MCLG	Distribution System	Contaminant Sources
Total Coliform Bacteria	5 %	0	3.92%	Naturally present in the environment
Fecal Coliform / *E. coli*	*	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.*

Table 8 – DETECTION OF LEAD AND COPPER IN CUSTOMER TAPS

Substance (reporting units)	AL	PHG	No. of Samples (Collected in 2011)	90th Percentile Detected	No. Sites exceeding AL	Contaminant Sources
Lead (ppb)	15	0.2	51	< 5	0	Plumbing corrosion; erosion of natural deposits
Copper (ppm)	1.3	0.3	51	0.086	0	Plumbing corrosion; erosion of natural deposits

ABBREVIATIONS AND DEFINITIONS

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 (ug/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