Water Quality Concerns

Security — The City of Fairfield has performed a comprehensive vulnerability assessment for the water system resources. If you should see any items of concern or notice anything suspicious, please contact the **City of Fairfield** at **(707) 428-7594**.

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

Chromium — A natural-occurring element found in soil and in volcanic dust and gases. Chromium is a micronutrient and is found in most mineral supplements in addition to foods, such as cheese, mushrooms, and spinach. Chromium in water is found in two forms: chromium -3, which is the nutrient form, and chromium -6 which has been found to be carcinogenic when it is inhaled in dust form. Scientific studies have shown that stomach acid converts chromium-6 to the safer chromium -3 form. Although USEPA has set the MCL at 50 ug/L the Office of Environmental Health Hazard Assessment has established a PHG of 2.5 ug/L. No total chromium has been detected in Fairfield's source water.

Giardia & Cryptosporidium — Pathogenic protozoans found in surface water throughout the U.S. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection which includes symptoms like nausea, diarrhea, and abdominal cramps. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. These pathogens have been detected in Fairfield's source water. The City provides a multiple barrier treatment process of coagulation, sedimentation, filtration, and disinfection with ozone and chlorine.

Lead & Copper — Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that your lead levels may be higher than at other homes in the community as a result of materials used in your plumbing. None of the samples tested in 2002 exceeded the Action Levels for lead or copper.

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.

Para información en Español
Este folleto contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Para recibir información en Español comuníquese con Laura de Albidress al 707-428-7680 extensión 107.

FOR MORE INFORMATION CALL

For questions regarding this report	**(707) 428-7595**
Billing Questions	**(707) 428-7346**
Water Repairs	**(707) 428-7415**
After Hours Water Emergencies	**(707) 428-7300**
EPA Safe Drinking Water Hotline	**(800) 426-4791**
Para información en Español	**(707) 428-7680x107**

Receive a Free Home Water Audit & Free Water Saving Devices

As part of the City's efforts to extend our water resources, we provide free watersaving devices to all the citizens in our community. In addition, we can provide a qualified auditor to review the water use history of your home, check for leaks, and provide recommendations and information to help you save water.

Please visit the City of Fairfield at 1000 Webster Street, 3rd floor, or call 428-7487, Monday - Friday, 8 a.m. - 5 p.m.

100 Years of Serving Quality Water to the City of Fairfield

During the first years of water service for the residents of Fairfield, several fires played a major role in the development of the water system. In December of 1900, Henry Goosen was commissioned to overhaul the privately owned water plant, which consisted of two 10,000 gallon redwood tanks on a forty-foot tower, and a thirty-foot square pit with a tunnel. On Christmas Eve of 1900, while building a fire in the new boiler room to generate steam so they could start pumping water the next day, a spark caught the roof of the pump house on fire. The tower went up in a blaze, consuming the entire plant before the bucket brigade could extinguish it.

Pictured is Fairfield's first Water Treatment Plant "Ray Venning" it began operation May 1, 1953.

Shortly after the fire, Henry Goosen purchased the water system and hired employees to start rebuilding the plant. Three new 10,000 gallon water tanks were constructed. Not long after rebuilding the plant, it became evident the three pumps producing 216 gallons per day could not meet the demands of the current population of 750. Late in the year of 1901, two more pumps and a second boiler were added. In 1908, ten wells ranging in depth from 60' to 110' were drilled.

On June 22, 1926, 165 voters turned out to pass a $27,000 water improvement bond issued by the Town of Fairfield. From the proceeds of the bond the City Council approved the purchased of the entire water system from Henry Goosen for the sum of $25,000.

Over the next few years, growth in Fairfield was slow, but by October 1929 the population had doubled and Ray Venning (a local resident) was hired to operate the water plant.

Dickson Hill Treatment Plant began operation in 1960.

Glusen Tank and pump station built in 1965.

In 1931, yet another bond was issued for the installation of a tank and the drilling of new wells. Four companies were hired and $42,000 later the new system was up and running.

In 1952 a bond for $680,000 was approved, this time to cover the cost of a new water treatment plant. The first phase of the new plant was completed on May 1, 1953. Ray Venning was the supervisor to operate the new plant, but, nineteen days after completion Ray Venning passed away. The second phase of the plant was completed by May of the following year. The two-phase project was later named after Ray Venning for his 24 years of dedicated service.

In 1960, another bond was passed for $975,000 and the new Dickson Hill Treatment Plant began operation in October 1960.

Since then, two new plants have been constructed. Ray Venning and Dickson Hill Treatment Plant have been replaced by the Waterman Treatment Plant and the North Bay Regional Plant. Both plants are still in operation today, and serve the many residents of Fairfield. ❑

Cover shows an actual replica of a tower and steel storage tank built in 1931. Also, shown is a copy of the original bid and proposal awarded to one of four companies who worked on the project. The total cost for the project was $42,000.

For more detailed information on water quality, visit our website: www.ci.fairfield.ca.us/publicworks/water_quality.htm

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

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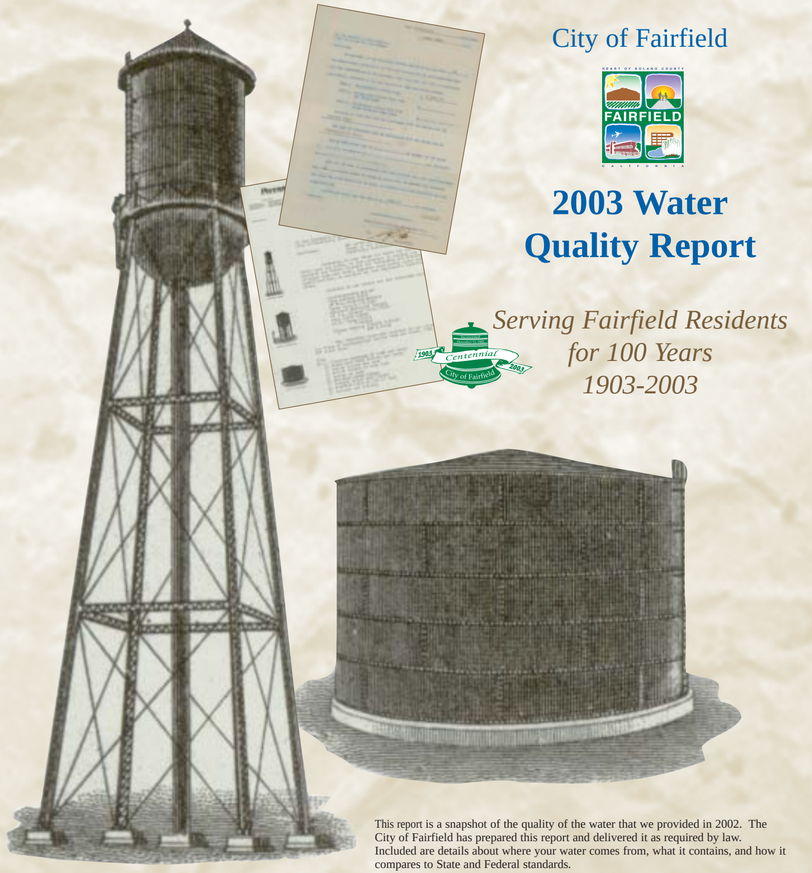
Public input on drinking water issues is encouraged. You are welcome to attend a City Council meeting and have your voice heard. Council meetings are held the 1st & 3rd Tuesday of each month at 7 p.m. in the Fairfield City Council Chambers.



City of Fairfield

2003 Water Quality Report

Serving Fairfield Residents for 100 Years 1903-2003

This report is a snapshot of the quality of the water that we provided in 2002. The City of Fairfield has prepared this report and delivered it as required by law. Included are details about where your water comes from, what it contains, and how it compares to State and Federal standards.

Source Water

Drinking water sources (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 human activity.

Fairfield's water comes from two surface water sources. **Lake Berryessa** water is transported through the Putah South Canal and **Sacramento Delta** water is transported through the North Bay Aqueduct.

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

Contaminants that may be present in source water before we treat it include:

Microbial contaminants, such as viruses and bacteria, that may result from sewage discharge, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, that 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, which 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

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

Results of Source Water Monitoring

Results meet or surpass state and federal water standards

Substance Detected	Sacramento Delta Range	Sacramento Delta Average	Lake Berryessa Range	Lake Berryessa Average	MCL	PHG	Units	Contaminant Sources
Primary Standards								
Gross Alpha	ND - 3.1	0.77	ND - 3.2	0.80	15	NA	pCi/L	Erosion of Natural Deposits
Fluoride	0.110 - 0.141	0.128	ND - 0.190	0.075	2	1	ppm	Erosion of Natural Deposits

Source Water Vulnerability 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 impacted 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. Source Water Assessments have been completed for the City's source water and shows that the most significant potential sources of contamination are:

Lake Berryessa (completed September 2001)

- ❏ Illegal Activities/Unauthorized Dumping
- ❏ Herbicide Application
- ❏ Storm Drain Discharge Points
- ❏ Recreational Areas

Sacramento Delta (completed December 2002)

- ❏ Recreational Use
- ❏ Urban & Agricultural Runoff
- ❏ Grazing Animals
- ❏ Herbicide Application
- ❏ Seawater Intrusion

A copy of the assessments and associated vulnerability summaries can be obtained through the **California Department of Health Services, Drinking Water Field Operations Branch, San Francisco District Office, 2151 Berkeley Way, Room 458, Berkeley, CA 94704** or by contacting **Dr. Kalyanpur Baliga, District Engineer, California Department of Health Services** at **(510) 540-2158.**

Entry to Distribution

Results of Entry to Distribution Monitoring

Results meet or surpass state and federal water standards

Substance Detected	NBR Range	NBR Average	Waterman Range	Waterman Average	MCL	PHG (MCLG)	Units	Contaminant Sources
Primary Standards								
Aluminum	ND - 0.127	0.032	ND - 0.119	0.053	1	0.6	ppm	Erosion of natural deposits and residue from some surface water treatment processes
Barium	ND - 0.178	0.044	ND	ND	1	(2)	ppm	
Nitrate (N)	ND - 0.640	0.160	ND - 0.540	0.135	10	10	ppm	Runoff and leaching from fertilizers, leaching from septic tanks.
Secondary Standards								
Aluminum	ND - 127	32	ND - 119	53	200	NA	ppb	--
Chloride	10 - 16.5	14.1	8.0 - 16.5	10.5	500	NA	ppm	Seawater influence
Sulfate	17.7 - 61.3	39.4	28.0 - 53.9	36.8	500	NA	ppm	Industrial Waste
Total Dissolved Solids	180 - 235	206	190 - 228	207	1000	NA	ppm	Soil Runoff
Color	ND - 4	1	ND	ND	15	NA	Units	Naturally occurring organic materials
Odor	1 - 1.4	1.1	1 - 1.4	1.3	3	NA	Units	
Conductivity	300 - 424	350	348 - 422	371	1600	NA	uohms	Naturally present
Turbidity	0.04 - 0.07	0.05	0.04 - 0.06	0.05	5	NA	Units	Soil Runoff
Additional Substances Analyzed								
Alkalinity	78 - 158	122	140 - 163	151	NA	NA	ppm	--
Boron	110 - 230	160	160 - 280	198	NA	NA	ppb	--
Calcium	14 - 25	19	18 - 25	20	NA	NA	ppm	Erosion of natural sources
Hardness	77 - 165	129	151-172	160	NA	NA	ppm	--
Magnesium	10 - 28	20	21 - 30	27	NA	NA	ppm	Erosion of natural sources
Molybdenum	ND - 1.09	0.27	ND - 1.0	0.25	NA	NA	ppb	--
pH	8.1 - 8.8	8.4	8.0 - 8.2	8.1	NA	NA	Units	--
Potassium	1.28 - 2.13	1.80	1.29 - 2.07	1.51	NA	NA	ppm	--
Sodium	14 - 35	27	14 - 33	19	NA	NA	ppm	--
Vanadium	ND - 5.1	3.7	ND - 5.3	3.4	NA	NA	ppb	--

Results of Monitoring for Other Substances

Results meet or surpass state and federal water standards

Substance Detected	NBR Average	Waterman Average	MCL	PHG (MCLG)	Units	Contaminant Sources
Bromate	2*	ND*	10	0	ppb	By-product of Drinking Water Ozonation
DBP** Precursors	2.57	2.14			%TOC*** Removal Ratio	Various natural and man-made sources.
Max. Turbidity****	0.21	0.23	TT = 5	NA	NTU	Soil runoff

* Running Annual Average. Meets compliance if average is below the MCL.
** DBP: Disinfection By-Products
*** TOC: Total Organic Carbon - Meets compliance if running annual average is greater than or equal to 1.0
**** 100% of Samples <0.5 NTU

Distribution to Residential Tap

Results of Monitoring at Residential Tap

Results meet or surpass state and federal water standards

Substance Detected	Distribution System	MRDL	MRDLG	Units	Contaminant Sources
Chlorine Residual	0.56*	4	4	ppm	Drinking water disinfectant added for treatment

* Running Annual Average. Meets compliance if average is below the MRDL.

Substance Detected	Distribution System Range	Distribution System Average	MCL	MCLG	Units	Contaminant Sources
Trihalomethanes	11.7 - 41.5	24.7	80	NA	ppb	By-product of drinking water chlorination.
Haloacetic Acids	2.20 - 16.0	8.2	60	NA	ppb	

Substance Detected	Distribution System	MCL	MCLG	Units	Contaminant Sources
Total Coliform Bacteria	1.59*	5	0	% Test Positive	Naturally present in environment
Fecal Coliform/ E. coli	0	**	0		Human or Animal fecal waste

* Highest monthly value.
** A routine sample and a repeat sample are total coliform positive and one of these is also fecal coliform or E. coli positive.

Substance Detected	Range	Average	Control Range*	Optimal Level*	Units	Contaminant Sources
Fluoride	0.69 - 1.07	0.94	0.7 - 1.3	0.8	ppm	Water additive that promotes strong teeth

* Dependent on the annual average of maximum daily air temperatures.

Substance Detected	Distribution System Range	Distribution System 90th percentile	Action Level	PHG	Units	Contaminant Sources
Lead	< 5	< 5	15	2	ppb	Plumbing corrosion; erosion of natural deposits
Copper	<0.05 - 0.195	0.054	1.3	0.17	ppm	

Abbreviations

AL - Action Level: The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirements, which a water system must follow.

MCL - Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. Set by USEPA as close as possible to MCLGs as 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. Set by USEPA.

MRDL - Maximum Residual Disinfectant Level: The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap. Set at 4.0 mg/L as $C1_2$ for chlorine disinfection.

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. MRDLs are set by USEPA.

NA - Not Applicable

ND - Not Detected

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

pCi/L - Pico Curies per Liter.

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 California EPA.

ppb - Parts per billion, or micrograms per liter (ug/L)

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

TT - Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water. No public health goal is defined.