



City of Fife

## 2011 Water Quality Report

June 2012

This is an annual report on the quality of water delivered by the City of Fife. This report covers the year 2011, however the most recent test results for many substances are included in an effort to provide the most up-to-date information. This report meets the requirements of the federal Safe Drinking Water Act (SDWA), reauthorized by Congress in 1996, for "Consumer Confidence Reports."

This report contains valuable information on the source of our water, its constituents, and the health risks associated with any contaminants. Safe, reliable water is vital to our community.

This report also contains information on topics that have an effect on our water and/or community. Please read this report carefully and, if you have questions, call the City of Fife's - Public Works Dept. at (253) 922-9315.

The City of Fife encourages public interest and participation in our community's decisions affecting drinking water. Regular City Council meetings occur on the 2nd and 4th Tuesdays of each month, at 7:00 p.m. in City Hall located at 5411-23rd St E. The Public is welcome.



### Water Source Information

The City of Fife purchased all of the water supplied in 2011 from Tacoma Public Utilities through our inter-tied connections. The water purchased from Tacoma is primarily surface water from the Green River, in south King County. Water in the Green River comes from a 231-square-mile forested area located in the Cascade Mountains between Chinook and Snoqualmie passes.

This uninhabited area serves as a collection point for melting snow and seasonal rainfall. Tacoma Water also supplements its Green River supply with well water from more than twenty wells to meet peak summer demands. Most of these wells are located within the Tacoma city limits. Tacoma also has six wells on the North Fork of the Green River. These wells are used when heavy rain or spring runoff causes the Green River to be too cloudy with sediment to use as drinking water.

For additional information on Tacoma Water's sources, Tacoma has requested that our customers contact the City of Fife, to request specific information. Please contact the City of Fife-Public Works Dept., at 3725-Pacific Hwy. E., Fife, WA. 98424 or call (253) 922-9315.

### Water Treatment Information

Tacoma Water treats the water we purchase by adding chlorine for disinfection. They also add fluoride for dental health benefits.

Beginning in the summer of 2007 Tacoma began treating the Green River Water Supply with Ozone. Ozone is being added to improve both the taste

이 보고서는 귀하의 거주하는 지역의 수질에 관한 중요한 정보가 들어 있습니다. 이것을 번역하거나 충분히 이해하시는 친구와 상의하십시오.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.



American Water Works Association  
Dedicated to Safe Drinking Water

and odor as it destroys algae, but also because of its powerful disinfection ability.

Tacoma also adds caustic soda to the water they produce to adjust the pH of the water. Tacoma's water, if left untreated, tends to be acidic. Acidic water tends to increase corrosion of plumbing systems. By raising the pH with caustic soda, the water becomes less acidic and less likely to leach lead and copper from home plumbing into your 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. The City of Fife 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 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 <http://www.epa.gov/safewater/lead>.

Tacoma Water has recently decided to begin filtering its Green River water supply to improve the quality and protect against microorganisms like cryptosporidium. Cryptosporidium is a protozoan organism which is very resistant to more traditional disinfection techniques such as chlorine. The new treatment plant is expected to begin production in 2014. The cost estimates for the new treatment plant are between \$185 million and \$237 million dollars.

### [Health Information](#)

To insure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes limits on the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

The presence of contaminants do not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).



The sources of drinking water throughout the country, (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 radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants* such as salts and metals, which can be naturally-occurring or result from urban storm 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, storm water runoff, and residential uses.
- *Organic chemical contaminants* including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, septic systems, and wastewater treatment plants.
- *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amounts of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than is 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.

EPA/CDC (Centers for Disease Control) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791).

### Beware of Thermal Expansion!

All customers need to routinely test the temperature/pressure relief valves and/or thermal expansion tanks on their hot water tanks or boilers for proper function. If the relief valve or expansion tank is not working properly excessive pressure can build up resulting in a potentially violent explosion. Excessive pressure cannot be relieved by flowing backward into the City water main because of backflow prevention assemblies or check valves normally installed at the meter. A potential tragedy was narrowly averted right here in Fife in the fall of 2010 when a home hot water tank severely overheated and began over pressurizing. Steaming water began flowing backwards within the home plumbing. Fortunately, the home owner noticed the boiling water in his toilet before it was too late. The temperature/pressure relief valve, designed to vent and relieve the over pressurization, had been removed from the older model hot water tank at some point in the past.

### Lawn Watering Season

As the temperatures start rising, and the rain begins to let up (eventually), a lot of us will start watering our lawns, flower beds, and gardens. Now is a great time to start adjusting our sprinklers to make sure we are watering only where we want to water and not on our sidewalks, driveways, and walls. Tremendous amounts of water are wasted everyday by watering these impervious surfaces, and in some cases, like your homes walls, it can be quite damaging. It is also a great time to consider installing rain/moisture sensors on automatic irrigation systems. I'm sure we've all seen those sprinklers watering lawns when its been pouring rain all day long. What a terrible waste of water, and expensive as well. In 2011, more than 78 million gallons of water was used in our water system for irrigation, more than 15% of all water supplied. Important things to remember about lawn watering: no more than 1" of water a week (use a rain gauge or a tuna can to measure), water during the cool morning hours, water slowly but deeply to promote deep rooting, and water when there is very little wind.

### Water Use Summary for 2011

Total Water Supplied:  
509,217,449 gallons (100%)

Total Water Metered to Customers:  
455,526,016 gallons (89.5%)

Other Accounted for Water Used:  
4,219,857 gallons (0.8%)

Total Unaccounted Water Used:  
49,471,576 gallons (9.7%)

The City as part of its water conservation efforts is actively trying to account for all water used within the water system and encourage water conservation on the part of its customers. These efforts include a leak detection program, public education efforts, a meter testing and replacement program, and a reduction in unaccounted water uses like unmetered construction use, and excessive flushing. The City believes most unaccounted water is caused by a combination of unmetered use, theft, flushing of new and existing mains, leaks and meter under registration. The water system is currently 100% metered, but many of those meters are near the end of their useful life. The physical design and construction of a water meter is such that as it wears over an extended period, it will under-register the volume of water passing through it. Over time this under-registration can add up to a significant amount of water.

## [Understanding the Water Quality Data Table](#)

The table shows the results of our water quality analysis. Every regulated contaminant that we detected in the water, even in the minutest traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL); the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement. The definitions for MCL and MCLG are important, please read them. The City of Fife as part of complying with the federal Safe Drinking Water Act and state health codes routinely monitors for over 170 different substances in the water we provide.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

**Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements that a water system must follow. Action Levels are reported at the 90<sup>th</sup> percentile for homes at greatest risk.

**Secondary Maximum Contaminant Level (SMCL):** This is the level which EPA has recommended to be the maximum level of a contaminant allowed to be in drinking water which affect the aesthetic quality, and are not health based..

**Nephelometric Turbidity Unit (NTU):** Is a standard unit to measure water clarity.

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

**Picocuries Per Liter (pCi/l):** Is a measure of radioactivity.

The data presented in this report is from the most recent testing done in accordance with regulations.

## [Key to Data Table](#)

AL	Action Level	ppm	Parts Per Million, or milligrams per liter (mg/l)
SMCL	Secondary Maximum Contaminant Level	ppb	Parts per billion, or micrograms per liter (µg/l)
MCL	Maximum Contaminant Level	n/a	Not applicable, or not regulated
MCLG	Maximum Contaminant Level Goal	TT	Treatment Techniques
NTU	Nephelometric Turbidity Units	pCi/l	Picocuries per liter

## [Water Quality Data Tables](#)

### **Fife Distribution System**

Contaminant	Unit	MCL	MCLG	Detected Level	Range or # Exceeded AL	Potential Sources of Contamination	Violation
<b>Inorganic Contaminants</b>							
Lead (1) - Tests Done in 2010	ppb	AL = 15	0	13.4	1 Site Exceeded AL	Household Plumbing	No
Copper (1) - Tests Done in 2010	ppm	AL = 1.3	1.3	0.54	0 Sites Exceeded AL	Household Plumbing	No
<b>Microbiologic Contaminants</b>							
Total Coliform	n/a	2 or more Positive/ Month	0	0	0 of 30 samples Per Month	Sampling Technique	No
<b>Other Contaminants</b>							
Chlorine (2)	ppm	4	4	0.2	0.6	Treatment Additive	No

Footnotes:

- Detected level description results for lead and copper are for tests performed by qualifying residential customers.
- Testing for this contaminant is performed daily.

Unregulated contaminant monitoring results are available upon request. Please contact the City of Fife - Public Works Dept. for further information.

## **Tacoma Sources and Distribution System**

Contaminant	Unit	MCL	MCLG	Detected Level	Range or # Exceeding AL	Potential Sources of Contamination	Violation
<b>Inorganic Contaminant</b>							
Barium	ppm	2	0	0.004	0— 0.004	Natural Erosion	No
Zinc	ppm	SMCL =5	0	0.025	<0 — 0.025	Natural Deposits	No
Manganese (1)	ppm	SMCL =0.05	0	0.58	0— 0.58	Natural Deposits	Yes
Iron (1)	ppm	SMCL =0.3	0	0.11	0— 0.11	Natural Deposits	No
Sulfate (1)	ppm	SMCL =250	0	23	0— 23	Natural Deposits	No
Sodium (1)	ppm	n/a	n/a	17.8	0— 17.8	Natural Deposits	No
Arsenic	ppb	10	0	1	0— 1	Natural Deposits	No
Nitrate	ppm	10	10	4.55	0 — 4.55	Agricultural Uses, Septic	No
Fluoride	ppm	4	4	1.4	0— 1.4	Treatment Additive	No
Chloride	ppm	SMCL =250	0	14	0—14	Erosion of Natural Deposits	No
Nickel	ppb	100	100	3	0—3	Natural Erosion	No
Lead (2) Tests Done in 2010	ppb	AL = 15	0	14	5 of 50 Sites Exceeded AL	Household Plumbing	No
Copper (2) Tests Done in 2010	ppm	AL = 1.3	1.3	0.392	0 of 50 Sites Exceeded AL	Household Plumbing	No
<b>Microbiologic Contaminants</b>							
Total Coliform	n/a	<5% Positive	0	0.0%	0.0% of 2316 samples	Sampling Technique	No
Turbidity	NTU	5	n/a	4.6	0.01— 4.6	Soil Erosion	No
<b>Volatile Organic Contaminants</b>							
Bromate	ppb	10	0	<5	0 — <5	Disinfection Interaction	No
Chloroform	ppb	n/a	n/a	0.99	0— 0.99	Industrial Contamination	No
Trichloroethylene	ppb	5	0	0.94	0—0.94	Industrial Contamination	No
Total Trihalomethanes	ppb	80 Avg.	0	29.7 Avg.	13.2— 29.7	Disinfection Interaction	No
<b>Synthetic Organic Contaminants</b>							
Haloacetic Acids	ppb	60 Avg.	0	38.7 Avg.	13.6 — 38.7	Disinfection Interaction	No
<b>Radioactive Contaminants</b>							
Radium-228	pCi/L	5	0	0.96	0—0.96	Decay of Natural Deposits	No

**Footnotes:**

- (1) This is an aesthetic contaminant, which may effect taste, color, or odor, but has no known or expected health effects.
- (2) Samples required every three years. Last sampled in 2010.

# City of Fife-2011 Water Quality Report

## Whom can I contact for more information

City of Fife - Public Works  
3725 Pacific Hwy. E.  
Fife, WA 98424  
(253) 922-9315  
(253) 922-9688 fax  
[www.cityoffife.org](http://www.cityoffife.org)

Environmental Protection Agency  
Safe Drinking Water Hotline  
(800) 426-4791  
[www.epa.gov/safewater](http://www.epa.gov/safewater)

State Department of Health  
20435 72nd Ave. South  
Suite 200, K17-12  
Kent, WA 98032-2358  
(253) 395-6750  
[www.doh.wa.gov/ehp/dw](http://www.doh.wa.gov/ehp/dw)



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