

# Waterford 2016 Annual Water Quality Report for the Waterford Water System 5010006



The City of Waterford Water Department is pleased to present to you the 2016 Consumer Confidence Report. You will find detailed information regarding your drinking water quality, where it comes from, and other information in compliance with State and Federal law.

This report is intended to assure citizens that their drinking water is of the highest quality, meeting all federal and state water quality standards since implementation of the U.S. Environmental Protection Agency (USEPA) Safe Drinking Water Act was passed in 1974.

The City of Waterford successfully purchased the water system from the City of Modesto and assumed operations in July of 2015. The City of Modesto has made the transition a seamless one and remains available to assist the city in any way needed.

Through our trained and certified water professionals, citizens have the security of knowing their drinking water is the very best quality.

# Welcome

The City of Waterford is pleased to provide you with water that meets the United States Environmental Protection Agency (USEPA) standards for safety. In accordance with the USEPA and California regulations under the Safe Drinking Water Act, water utilities are required to provide detailed water quality information to their consumers. Found in this report a blend of City of Modesto and City of Waterford water quality information. Though these are two different sources of data, the quality has remained consistent.

This report contains important information about your drinking water. If the report is not available in your native language, we encourage you to identify someone who understands it and can translate for you.

Este informe contiene información importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Para información en español, llame por favor al (209) 874-2328.

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# Waterford Conservation Program



In 2016 we suffered our fifth year of a severe drought. Governor Brown mandated strict restrictions for the City of Waterford. The citizens of Waterford worked together and significantly reduced water usage by 28%.

For ways to save visit:  
<http://saveourwater.com/>

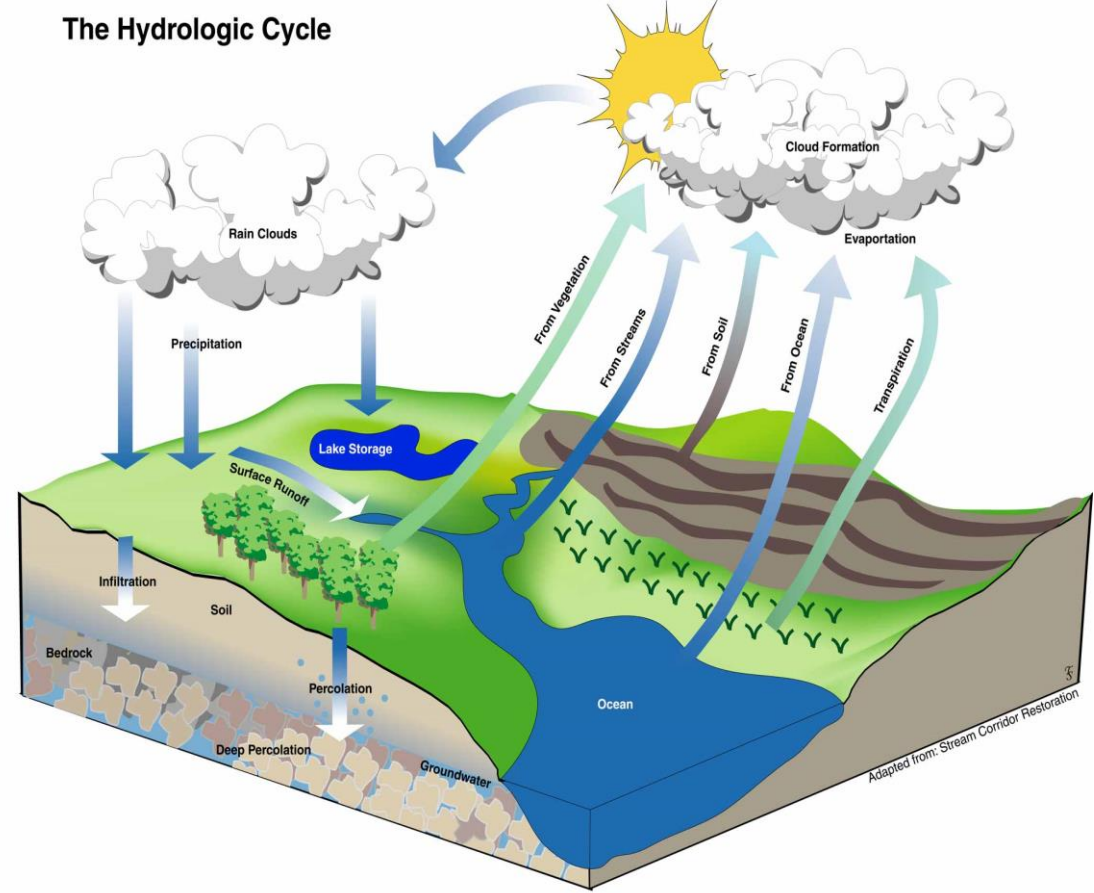
The average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers – a 5 minutes shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair, and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They are inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaking toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit [www.epa.gov/watersense](http://www.epa.gov/watersense) for more information.

# Sampling and Treatment

Groundwater is the source of the City of Waterford's drinking water. As water moves through the hydrological cycle, or water cycle, and through the earth to our aquifer it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (SWRCB) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB regulations also establish limits for contaminants in bottled water that provide the same protection for public health.



A Source Water Assessment is available. Please contact The City of Waterford for more information.

# USEPA and the State Water Resources Control Board

The State Water Resources Control Board requires us to inform you that:

“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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA’s Safe Drinking Water Hotline (1-800-426-4791).

“Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as people 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).



# Contaminant Information

Contaminants that may be 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, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater or result from urban storm water 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 storm water runoff, and residential uses.
- Organic chemical contaminants, including 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 runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production or mining activities.



# Water Quality Sampling

On a monthly basis, City staff collect samples for approximately 170 contaminants as required by the State. For more detailed information, we have provided you with a table showing what types of contaminants have been tested, the results of those water samples, and the State MCLs (Maximum Contaminant Levels).

The table below lists contaminants which: 1) have associated primary Maximum Contaminant Levels (MCLs) that are registered and 2) were detected by the City of Waterford's Water Services Division. Contaminants were detected below, at or above the Detection Limits for Purposes of Reporting (DLR). The presence of these contaminants in the drinking water does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health risks can be obtained by calling the U.S. Environmental Protection Agency (EPA) at (800) 426-4791 or visiting the agency's website at [www.epa.gov/safewater/hfacts.html](http://www.epa.gov/safewater/hfacts.html). California action levels are available on the State Water Resources Control Boards website [www.waterboards.ca.gov](http://www.waterboards.ca.gov).

Table 1 lists all regulated contaminants with Primary MCLs that the City of Modesto's Water Services Division detected in the drinking water below, at or above the State DLR.

Table 2 lists regulated contaminants with Secondary MCLs that were detected at or above the State DLR.

Table 3 lists disinfection residuals and by-products that were detected in the treated water.

The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

DLR: detection limit for reporting

mg/L: number of milligrams in one liter of water

n/a: not applicable

NTU: nephelometric turbidity units

pCi/L: picocuries per liter (a measure of radiation)

pb: parts per billion

ppm: parts per million

ppt: parts per trillion

TT: treatment technique

µS/cm: micro-siemens/cm

<: less than

<: less than

LRAA: locational Running Annual Average

The following tables on pages 8 - 11 contain detailed information showing what type of chemicals have been found in the water, the results, and the State Maximum Contaminant Levels (MCLs)

# COMPARATIVE FIGURES FOR INTERPRETING MEASUREMENTS WITHIN THIS REPORT

1 PPM	1 PPB	1 PPT
1 second in 11.5 days	1 second in 31.7 years	1 second in 317.1 centuries
1 penny out of \$10,000	1 penny of \$10,000,000	1 penny of \$10,000,000,000
1 inch of 15.8 miles	1 inch of 15,782.8 miles	1 inch of 657.6 trips around the equator
1 minute in 1.9 years	1 minute in 19 centurys	1 minute in 1,900 millenniums
1 ounce in 62,500 pounds	1 ounce in 31,250 tons	1 ounce in 31,250,000

\*SOURCE: AMERICAN WATER WORKS ASSOCIATION (AWWA) WEBSITE

## DEFINITION OF TERMS

**Maximum Contaminant Level (MCL):** 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 are set to protect the odor, taste, and appearance of drinking water.

**Maximum Contaminant Level Goal (MCLG):** 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. Environmental Protection Agency.

**Public Health Goal (PHG):** 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.

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

**Maximum Residual Disinfectant Level (MRDL):** 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.

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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.

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

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

**Variances and Exemptions:** State Board permission to exceed an MCL or not comply with a treatment technique under certain conditions.



**TABLE 1 - DETECTED REGULATED CONTAMINANTS WITH MCL'S**

INORGANIC CONTAMINANTS									
CONTAMINANT	UNITS	MCL	PHG	DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Arsenic	ppb	10	0.004	2	2.8	2.1-3.6	2015	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium	ppm	1	2	0.01	0.107	n/a	2015	No	Erosion of natural deposits; discharges of oil drilling wastes and from metal refineries
Flouride	ppm	2	1	0.1	0.16	.15-.17	2015	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Hexavalent Chromium	ppb	10	0.02	1	1.5	n/a	2015	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate	ppm	45	45	2	17.9	16.9-19.4	2015	No	Erosion of natural deposits; runoff/leaching from fertilizer use, septic tanks and sewage
SYNTHETIC ORGANIC CHEMICALS/HERBICIDES AND PESTICIDES									
CONTAMINIANT	UNITS	MCL	PHG	DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Dibromo-chloropropane (DBCP)	ppt	200	1.7	10	130	90-170	2016	No	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes and tree fruit
RADIOACTIVE CONTAMINANTS									
CONTAMINANT	UNITS	MCL	PHG	DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Uranium	pCi/L	20	0.43	1	0.3	0-1.66	2013	No	Erosion of natural deposits



**TABLE 2 - DETECTED REGULATED CONTAMINANTS WITH SECONDARY MCL'S**

CONTAMINANT	UNITS	STANDARDS	PHG	DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Chloride	ppm	500	n/a	n/a	11.5	6.9-15.5	2015	No	Runoff and leaching from natural deposits; seawater influence
Specific Conductance	uS/cm	1600	n/a	n/a	300	280-320	2015	No	Substances that form ions when in water; seawater influence
Sulfate	ppm	500	n/a	0.5	13.1	8.1-20.2	2015	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	ppm	1000	n/a	n/a	245.3	240-256	2015	No	Runoff/leaching from natural deposits

**ADDITIONAL INORGANIC CONTAMINANTS**

CONTAMINANT	UNITS	MCL	PHG	DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Hardness(as CaCO3)	ppm	n/a	n/a	n/a	22.3	21-24	2015	No	“Hardness” is the sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally occurring.
pH	units	n/a	n/a	n/a	7.2	7.08-7.22	2015	No	
Sodium	ppm	n/a	n/a	n/a	17.1	15-19.4	2015	No	

**AT THE TAP CONTAMINANTS**

CONTAMINANT	UNITS	ACTION LEVEL	PHG	DLR	# OF SAMPLES	90TH% CONCENTRATION	YEAR SAMPLED	#SAMPLE > ACTION LIMITS	TYPICAL SOURCE OF CONTAMINANTS
Copper	ppm	1.3	0.3	0.05	21	0.16	2014	0	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	ppb	15	0.2	5	21	ND	2014	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits



**BACTERIOLOGICAL CONTAMINANTS**

CONTAMINANT	UNITS	MCL	PHG	DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Heterotrophic Plate Count	cfu/ml	n/a	n/a	n/a	3.16	0-15	2016	No	n/a

**BACTERIOLOGICAL CONTAMINANTS**

CONTAMINANT	UNITS	MCL	PHG	DLR	Highest Month	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Total Coliform Bacteria	Present / Absent	>5.0% per month	0	n/a	0%	2016	No	Naturally present in the environment

**TABLE 3 - DETECTED DISINFECTION BY-PRODUCTS AND DISINFECTION RESIDUAL**

**DISINFECTANT RESIDUAL**

CONTAMINANT	UNITS	MCL	PHG	DLR	AVG	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Chlorine	mg/l	4	4	n/a	.95	.3-1.6	2016	No	Drinking water disinfectant added for treatment

**DISINFECTANT BY-PRODUCTS**

CONTAMINANT	UNITS	MCL	PHG	DLR	AVE	RANGE	YEAR SAMPLED	VIOLATION	TYPICAL SOURCE OF CONTAMINANTS
Total Haloacetic Acids	ppb	60	n/a	n/a	.65	0-1.3	2016	No	By-product of Drinking water disinfection
Trihalomethanes (Total)	ppb	80	n/a	n/a	1.64	0-3.27	2016	No	By-product of Drinking water disinfection