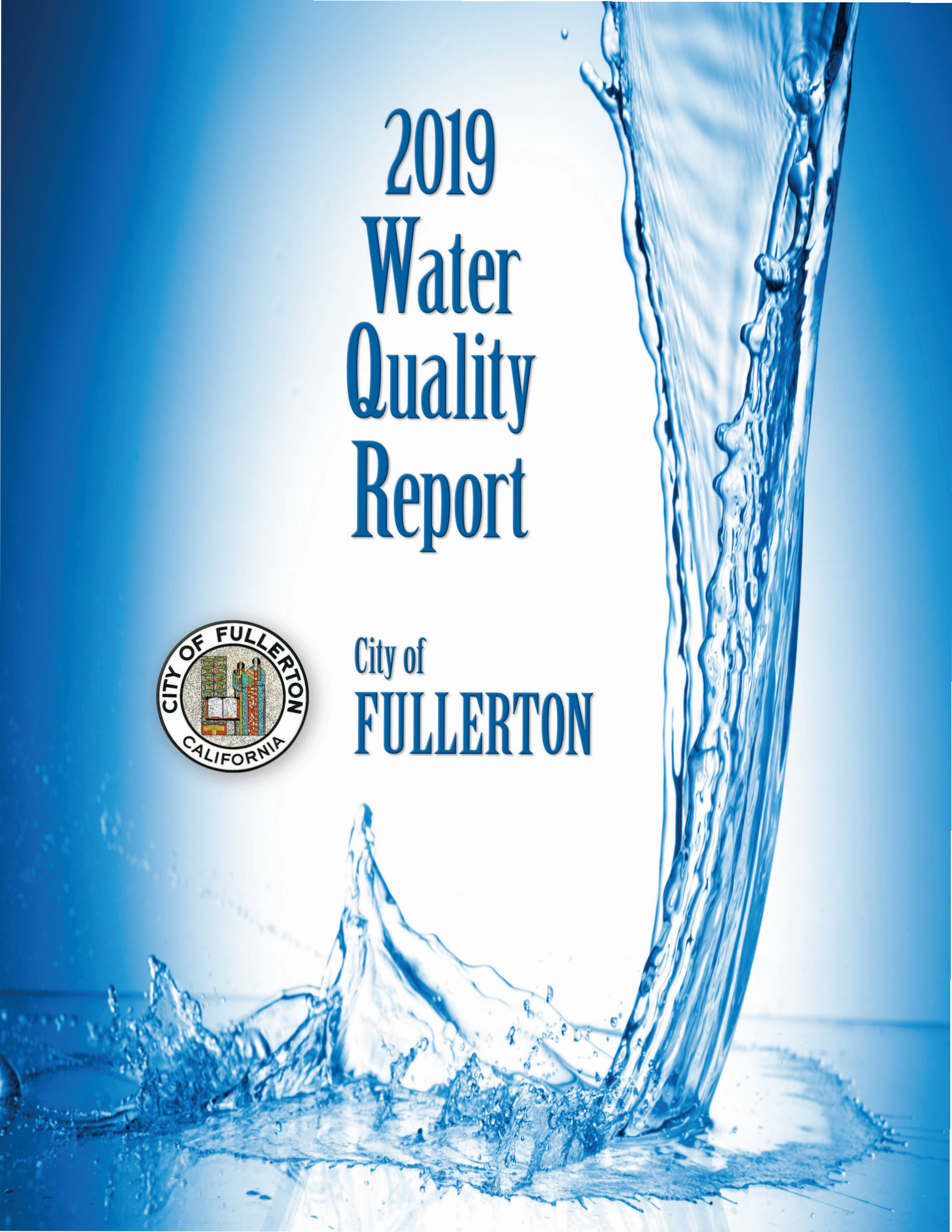
2019 Water Quality Report

City of FULLERTON



Your 2019 Water Quality Report

Since 1990, California water utilities have been providing an annual Water Quality Report to their customers. **This year's report covers calendar year 2018 water quality testing**, and has been prepared in compliance with regulations called for in the 1996 reauthorization of the Safe Drinking Water Act (SDWA). The reauthorization charged the United States Environmental Protection Agency (USEPA) with updating and strengthening the tap water regulatory program.

USEPA and the State Water Resources Control Board, Division of Drinking Water (SWRCB-DDW) are the agencies responsible for establishing drinking water quality standards. To ensure that your tap water is safe to drink, USEPA and SWRCB-DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB-DDW regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. The federal Food and Drug Administration (FDA) also sets regulations for bottled water.

The City of Fullerton vigilantly safeguards its water supply and, as in years past, the water delivered to your home meets the standards required by the state and federal regulatory agencies. In accordance with the SDWA, the City monitors over 100 compounds in your water supply. This report includes only the compounds actually detected in the water.

In some cases, the City goes beyond what is required by testing for unregulated contaminants that may have known health risks. For example, the Orange County Water District (OCWD), which manages our groundwater basin, monitors our groundwater for regulated and unregulated solvents, herbicides, and pesticides. Unregulated contaminant monitoring helps USEPA determine where certain contaminants occur and whether it needs to establish regulations for those contaminants.

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.

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Este informe contiene información muy importante sobre su agua potable. Para mas información o traducción, por favor llamen a: (714) 738-6887

Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.

يحتوي هذا التقرير على معلومات هامة عن نوعية ماء الشرب في منطقتك. يرجى ترجمته، أو ابحث التقرير مع صديق لك يفهم هذه المعلومات جيداً.

这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

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

この資料には、あなたの飲料水についての大切な情報が書かれています。内容をよく理解するために、日本語に翻訳して読むか説明を受けてください。

Questions about your water? Contact us for answers.

For information about this report, or your water quality in general, please contact the City of Fullerton Water Quality Specialist at (714) 738-2835. The City Council meets on the first and third Tuesdays of the month at 6:30 pm.

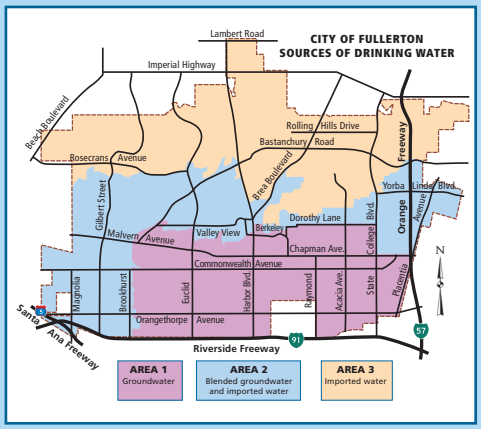
The meetings are held in the Council Chambers at City Hall, 303 W. Commonwealth Avenue, Fullerton. Please feel free to participate in these meetings.

For more information about the health effects of the listed contaminants in the following tables, call the U.S. Environmental Protection Agency hotline: (800) 426-4791.

The Quality of Your Water Is Our Primary Concern

Sources of Supply

Your drinking water is a blend of mostly groundwater from the Orange County groundwater basin and also surface water imported by the Metropolitan Water District of Southern California (MWD). MWD's imported water sources are a blend of State Water Project water from northern California and water from the Colorado River Aqueduct. Your groundwater comes from a natural underground reservoir that stretches from the Prado Dam and fans across the north-western portion of Orange County, excluding the communities of Brea and La Habra, and stretching as far south as the El Toro 'Y'.



The Area Map in this report will help you determine what source of water you are most likely to receive. Area 1 receives primarily groundwater and Area 3 imported water. Area 2 receives a mixture of groundwater and imported water.

Depend On Us To Deliver Quality Water

Turn the tap and the water flows, as if by magic. Or so it seems. The reality is considerably different, however. Delivering high-quality drinking water to our customers is a scientific and engineering feat that requires considerable effort and talent to ensure the water is always there, always safe to drink.

Since tap water is highly regulated by state and federal laws, water treatment and distribution operators must be licensed and are required to complete on-the-job training and technical education before becoming a state certified operator.

Our licensed water professionals have an understanding of a wide range of subjects, including mathematics, biology, chemistry, physics, and engineering. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind every drop.

Fullerton's water system was built with maximum flexibility. We have 10 active wells, located in the southern portion of Fullerton and north Anaheim, and 6 active imported water connections. This means that under emergency, drought or other unusual conditions, the source of water to any area may change. The Area Map reflects the source of water each area receives a majority of the time

Basic Information About Drinking Water Contaminants

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 land or through the layers of the ground it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animal and 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.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production or mining activities.
- **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 and 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 by-products of industrial processes and petroleum production, and can also come from gasoline stations, urban stormwater runoff, agricultural application and septic systems.

In order to ensure that tap water is safe to drink, USEPA and the DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that must provide the same protection for public health. 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 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 at (800) 426-4791.

Federal and State Water Quality Regulations

— Water Quality Issues that Could Affect Your Health —

Drinking Water Fluoridation

Fluoride has been added to U.S. drinking water supplies since 1945. Of the 50 largest cities in the U.S., 43 fluoridate their drinking water. In December 2007, MWD joined a majority of the nation's public water suppliers in adding fluoride to drinking water in order to prevent tooth decay. In line with recommendations from the SWRCB-DDW, as well as the U.S. Centers for Disease Control and Prevention, MWD adjusted the natural fluoride level in imported treated water from the Colorado River and State Water Project to the optimal range for dental health of 0.6 to 1.2 parts per million.

Our local groundwater is not supplemented with fluoride. Fluoride levels in drinking water are limited under California state regulations at a maximum dosage of 2 parts per million.

There are many places to go for additional information about the fluoridation of drinking water:

U.S. Centers for Disease Control and Prevention:
www.cdc.gov/fluoridation/index.htm

State Water Resources Control Board, Division of Drinking Water
www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html

For more information about MWD's fluoridation, please contact Edgar G. Dymally at (213) 217-5709 or at edymally@mwdh2o.com.

Disinfectants and Disinfection Byproducts

Disinfection of drinking water was one of the major public health advances in the 20th century. Disinfection was a major factor in reducing waterborne disease epidemics caused by pathogenic bacteria and viruses, and it remains an essential part of drinking water treatment today.

Chlorine disinfection has almost completely eliminated from our lives the risks of microbial waterborne diseases. Chlorine is added to your drinking water at the source of supply (groundwater well or surface water treatment plant). Enough chlorine is added so that it does not completely dissipate through the distribution system pipes. This "residual" chlorine helps to prevent the growth of bacteria in the pipes that carry drinking water from the source into your home.

However, chlorine can react with naturally-occurring materials in the water to form unintended chemical byproducts, called disinfection byproducts (DBPs), which may pose health risks. A major challenge is how to balance the risks from microbial pathogens and DBPs. It is important to provide protection from these microbial pathogens while simultaneously ensuring decreasing health risks from disinfection byproducts. The Safe Drinking Water Act requires the U.S. Environmental Protection Agency (USEPA) to develop rules to achieve these goals.

Trihalomethanes (THMs) and Haloacetic Acids (HAAs) are the most common and most studied DBPs found in drinking water treated with chlorine. In 1979, the USEPA set the maximum amount of total THMs allowed in drinking water at 100 parts per billion as an annual running average. Effective in January 2002, the Stage 1 Disinfectants/Disinfection Byproducts Rule lowered the total THM maximum annual average level to 80 parts per billion and added HAAs to the list of regulated chemicals in drinking water.

Stage 2 of the regulation was finalized by USEPA in 2006, which further controls allowable levels of DBPs in drinking water without compromising disinfection itself. A required distribution system evaluation was completed in 2008 and a Stage 2 monitoring plan has been approved by SWRCB-DDW. Full Stage 2 compliance began in 2012. Your drinking water complies with the Stage 1 and Stage 2 Disinfectants/Disinfection Byproducts Rule.

Immuno-Compromised People

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those with cancer who are undergoing chemotherapy, persons who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can cause diarrhea, fever, and other gastrointestinal symptoms. The organism comes from animal and/or human wastes and may be in surface water. MWD tested their source water and treated surface water for *Cryptosporidium* in 2018 but did not detect it. If it ever is detected, *Cryptosporidium* is eliminated by an effective treatment combination including sedimentation, filtration and disinfection.

The USEPA and the federal Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from USEPA's Safe Drinking Water Hotline at (800) 426-4791 between 10 a.m. and 4 p.m. Eastern Time (7 a.m. to 1 p.m. in California).

About Lead in Tap 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 Fullerton 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, (800) 426-4791, or at: www.epa.gov/safewater/lead.

2018 Metropolitan Water District of Southern California Treated Surface Water

Chemical	MCL	PHG (MCLG)	Diemer Average	Weymouth Average	Range of Detections	MCL Violation?	Typical Source of Chemical
Inorganic Chemicals – Tested in 2018							
Aluminum (ppm)	1	0.6	0.124	0.105	ND – 0.31	No	Treatment Process Residue, Natural Deposits
Barium (ppm)	1	2	0.117	0.118	0.117 – 0.118	No	Refinery Discharge, Erosion of Natural Deposits
Bromate (ppb)	10	0.1	2	5	ND – 10	No	Byproduct of Drinking Water Disinfection
Fluoride (ppm) treatment-related	2	1	0.7	0.7	0.6 – 0.9	No	Water Additive for Dental Health
Secondary Standards* – Tested in 2018							
Aluminum (ppb)	200*	600	124	105	ND – 310	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	94	96	92 – 97	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	n/a	ND	ND	ND – 1	No	Runoff or Leaching from Natural Deposits
Odor (threshold odor number)	3*	n/a	2	3	1 – 4	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	906	954	852 – 1,010	No	Substances that Form Ions in Water
Sulfate (ppm)	500*	n/a	199	213	178 – 236	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	565	596	523 – 639	No	Runoff or Leaching from Natural Deposits
Unregulated Chemicals – Tested in 2018							
Alkalinity, total (ppm as $CaCO_3$)	Not Regulated	n/a	106	112	99 – 117	n/a	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL = 1	n/a	0.13	0.13	0.13	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	58	63	52 – 69	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (ppm as $CaCO_3$)	Not Regulated	n/a	240	254	219 – 274	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gal)	Not Regulated	n/a	14	15	13 – 16	n/a	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	23	24	21 – 26	n/a	Runoff or Leaching from Natural Deposits
pH (units)	Not Regulated	n/a	8.1	8.1	8.1 – 8.2	n/a	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	n/a	4.4	4.7	4.0 – 5.0	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	n/a	92	98	86 – 103	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	n/a	2.4	2.4	2.1 – 2.8	n/a	Various Natural and Man-made Sources

ppb = parts-per-billion; **ppm** = parts-per-million; **µmho/cm** = micromhos per centimeter; **ND** = not detected;
MCL = Maximum Contaminant Level; **(MCLG)** = federal MCL Goal; **PHG** = California Public Health Goal
NL = Notification Level; **n/a** = not applicable; **TT** = treatment technique *Chemical is regulated by a secondary standard.

Turbidity – combined filter effluent Metropolitan Water District Diemer Filtration Plant	Treatment Technique	Turbidity Measurements Diemer	 Weymouth	TT Violation?	Typical Source of Contaminant
1) Highest single turbidity measurement (NTU)	0.3	0.07	0.06	No	Soil Runoff
2) Percentage of samples less than 0.3 NTU	95%	100%	100%	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. **NTU** = nephelometric turbidity units
Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT).
A treatment technique is a required process intended to reduce the level of chemicals in drinking water that are difficult and sometimes impossible to measure directly.

Unregulated Chemicals Requiring Monitoring

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Chromium, Total (ppb)**	MCL = 50	MCLG = 100	<0.2	ND – 0.5	2014
Germanium (ppb)	n/a	n/a	0.1	ND – 0.4	2018
Manganese (ppb)***	SMCL = 50	n/a	2.2	0.8 – 3.3	2018
Molybdenum, Total (ppb)	n/a	n/a	4.8	4.5 – 5.3	2014
Strontium, Total (ppb)	n/a	n/a	940	850 – 1,100	2014
Vanadium, Total (ppb)	50	n/a	2.8	2.3 – 3	2014

SMCL = Secondary MCL

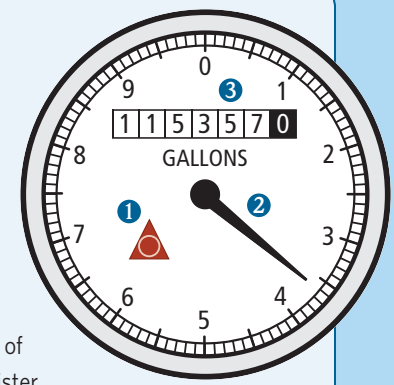
**Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.

***Manganese is regulated with a secondary standard of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 20 ppb. Manganese was included as part of the unregulated chemicals requiring monitoring.

How to Read Your Residential Water Meter

Your water meter is usually located between the sidewalk and curb under a cement cover. Remove the cover by inserting a screwdriver in the hole in the lid and then carefully lift the cover. The meter reads straight across like the odometer on your car. Read only the white numbers (115357).

If you are trying to determine if you have a leak, turn off all the water in your home — both indoor and outdoor faucets — and then check the red triangular dial for any movement of the low-flow indicator. If there is movement, that indicates a leak between the meter and your plumbing system.



❶ **Low-Flow Indicator** — The low flow indicator will spin if any water is flowing through the meter.

❷ **Sweep Hand** — Each full revolution of the sweep hand indicates that ten gallons of water has passed through the meter. The markings at the outer edge of the dial indicate ones and tenths of one gallon.

❸ **Meter Register** — The meter register is a lot like the odometer on your car. The numbers keep a running total of all the water that has passed through the meter. The register shown here indicates that 1,153,573.6 gallons of water has passed through this meter. If you check the reading a week later and subtract the two reads that will be the amount of water you used for the week.

2018 City of Fullerton Groundwater Quality

Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source of Contaminant
Radiologicals							
Combined Radium (pCi/L)	5	(0)	<1	ND – 1.09	No	2018	Erosion of Natural Deposits
Uranium (pCi/L)	20	0.43	3.94	ND – 11.7	No	2018	Erosion of Natural Deposits
Organic Chemicals							
1,1-Dichloroethylene (ppb)	6	10	< 0.5	ND – 1.1	No	2018	Industrial Waste Discharge
Tetrachloroethylene, PCE (ppb)	5	0.06	< 0.5	ND – 1.7	No	2018	Industrial Waste Discharge
Trichloroethylene, TCE (ppb)	5	1.7	< 0.5	ND – 1.0	No	2018	Industrial Waste Discharge
Inorganic Chemicals							
Fluoride (ppm)	2	1	0.5	0.43 – 0.55	No	2016	Erosion of Natural Deposits
Nitrate (ppm as N)	10	10	2.22	1.3 – 4.2	No	2018	Fertilizers, Septic Tanks
Nitrate+Nitrite (ppm as N)	10	10	2.23	1.31 – 4.21	No	2018	Fertilizers, Septic Tanks
Selenium (ppb)	50	30	0.61	ND – 6.1	No	2016	Erosion of Natural Deposits
Secondary Standards*							
Chloride (ppm)	500*	n/a	67.2	57.8 – 80.8	No	2016	Erosion of Natural Deposits
Specific Conductance (µmho/cm)	1,600*	n/a	751	597 – 917	No	2018	Erosion of Natural Deposits
Sulfate (ppm)	500*	n/a	126	91.8 – 170	No	2016	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	464	390 – 574	No	2018	Erosion of Natural Deposits
Turbidity (NTU)	5*	n/a	<0.1	ND – 0.2	No	2016	Erosion of Natural Deposits
Unregulated Chemicals							
Alkalinity, total as $CaCO_3$ (ppm)	Not Regulated	n/a	152	111 – 213	n/a	2016	Erosion of Natural Deposits
Bicarbonate (ppm as HCO_3)	Not Regulated	n/a	185	135 – 260	n/a	2016	Erosion of Natural Deposits
Boron (ppm)	NL = 1	n/a	0.18	ND – 0.22	n/a	2016	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	n/a	71	54.1 – 96.2	n/a	2016	Erosion of Natural Deposits
Hardness, total (grains per gallon)	Not Regulated	n/a	13.9	10.3 – 18.4	n/a	2016	Erosion of Natural Deposits
Hardness, total as $CaCO_3$ (ppm)	Not Regulated	n/a	237	175 – 314	n/a	2016	Erosion of Natural Deposits
Hexavalent Chromium (ppb)	Not Regulated	0.02	<1	ND – 1.1	n/a	2016	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	14.4	9.8 – 27.1	n/a	2016	Erosion of Natural Deposits
pH (pH unit)	Not Regulated	n/a	7.8	7.6 – 7.9	n/a	2016	Erosion of Natural Deposits
Potassium (ppm)	Not Regulated	n/a	3.7	2.9 – 4.1	n/a	2016	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	n/a	62.5	45.5 – 74.8	n/a	2016	Erosion of Natural Deposits

ppb = parts-per-billion; **ppm** = parts-per-million; **pCi/L** = picoCuries per liter; **NTU** = nephelometric turbidity units; **ND** = not detected; **n/a** = not applicable;
< = average is less than the detection limit for reporting purposes; **MCL** = Maximum Contaminant Level; **(MCLG)** = federal MCL Goal; **PHG** = California Public Health Goal;
µmho/cm = micromhos per centimeter; **NL** = Notification Level *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Unregulated Chemicals Requiring Monitoring

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
1,4-Dioxane (ppb)	1	n/a	0.23	ND – 0.42	2014
Bromide (ppm)	n/a	n/a	0.129	0.074 – 0.233	2018
Chlorate (ppb)	800	n/a	64	ND – 130	2014
Chromium, Hexavalent (ppb)	n/a	0.02	0.58	0.23 – 1.4	2014
Chromium, Total (ppb)**	MCL = 50	MCLG = 100	0.36	ND – 1.1	2014
Germanium (ppb)	n/a	n/a	0.057	ND – 0.4	2018
Manganese (ppb)***	SMCL = 50	n/a	0.914	ND – 5.8	2018
Molybdenum, Total (ppb)	n/a	n/a	6.3	2.9 – 20	2014
Perfluoro octane sulfonic acid (ppb)	n/a	n/a	<0.04	ND – 0.04	2014
Strontium, Total (ppb)	n/a	n/a	650	390 – 860	2014
Total Organic Carbon (Unfiltered) (ppm)	n/a	n/a	0.23	0.17 – 0.34	2018
Vanadium (ppb)	50	n/a	4.2	2.6 – 6.7	2014

SMCL = Secondary MCL

**Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.

***Manganese is regulated with a secondary standard of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 20 ppb. Manganese was included as part of the unregulated chemicals requiring monitoring.

Table Legend

What is a Water Quality Goal?

In addition to mandatory water quality standards, USEPA and SWRCB-DDW have set voluntary water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guidance and directions for water management practices. The chart in this report includes three types of water quality goals:

- **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 USEPA.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by USEPA.
- **Public Health Goals (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 – Office of Environmental Health Hazard Assessment.

What are Water Quality Standards?

Drinking water standards established by the USEPA and SWRCB-DDW set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The chart in this report shows the following types of water quality standards:

- **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.
- **Maximum Residual Disinfectant Level (MRDL):** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
- **Secondary MCLs** are set to protect the odor, taste, and appearance of drinking water.
- **Primary Drinking Water Standard:** MCLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.
- **Regulatory Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

Measurement Information

In order to ensure that tap water is safe to drink, USEPA and SWRCB-DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

The tables list all the drinking water contaminants that the Fullerton Water System detected above the reporting limits during the 2016 calendar year.

The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, **the data presented in this table is from testing done for the period January 1 through December 31, 2016.** The SWRCB-DDW requires monitoring for certain contaminants less often than every year because the concentrations of these contaminants are not expected to vary significantly from year to year. Thus, some of the data, though representative of current water quality, is more than one year old. The Fullerton Water System contracts with state certified, independent laboratories to perform most of its water quality testing.

How are Contaminants Measured?

- Parts per million **(ppm)** or milligrams per liter **(mg/L)**
- Parts per billion **(ppb)** or micrograms per liter **(µg/L)**
- Parts per trillion **(ppt)** or nanograms per liter **(ng/L)**

How are Contaminants Measured?

- **pCi/L** = picoCuries per liter
- **NTU** = nephelometric turbidity units
- **TON** = Threshold Odor Number
- **µmho/cm** = micromhos per centimeter
- **ND** = not detected
- **n/a** = not applicable
- **n/r** = not regulated
- **NL** = Notification Level

2018 City of Fullerton Distribution System Water Quality

Disinfection Byproducts	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	80	29	11 – 34	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	11	1.2 – 10	No	Byproducts of Chlorine Disinfection
Chlorine Residual (ppm)	(4 / 4)	1.3	ND – 3.04	No	Disinfectant Added for Treatment
Fluoride (ppm)	2	0.6	0.46 – 0.79	No	Erosion of Natural Deposits
Aesthetic Quality					
Color (color units)	15*	0.1	ND – 13	No	Erosion of Natural Deposits
Odor (threshold odor number)	3*	1	ND – 2	No	Erosion of Natural Deposits
pH (pH Units)	Not Regulated	7.8	7.3 – 8.5	No	Acidity, Hydrogen Ions
Turbidity (NTU)	5*	<0.1	ND – 0.8	No	Erosion of Natural Deposits

Eight locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids. Thirty locations are tested monthly for color, odor and turbidity.
MRDL = Maximum Residual Disinfectant Level; **MRDLG** = Maximum Residual Disinfectant Level Goal; **<** = detected but average is less than the reporting limit;
NTU = nephelometric turbidity unit; **ND** = not detected *Contaminant is regulated by a secondary standard to maintain aesthetic qualities.

Lead and Copper Action Levels at Residential Taps

	Action Level (AL)	Health Goal	90th Percentile Value	Sites Exceeding AL /No. of Sites	AL Violation?	Typical Source of Contaminant
Lead (ppb)	15	0.2	ND	0 / 50	No	Corrosion of Household Plumbing
Copper (ppm)	1.3	0.3	0.28	0 / 50	No	Corrosion of Household Plumbing

Every three years, 50 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 2018.
Copper was found in 32 homes; none exceeded the regulatory action level (AL). Lead was found in 2 homes; none exceeded the regulatory AL.
The regulatory action level is the concentration which, if exceeded in more than ten percent of the homes tested,
triggers treatment or other requirements that a water system must follow. The City of Fullerton complies with the lead and copper ALs.
In 2018, 0 schools submitted a request to be sampled for lead.

Unregulated Chemicals Requiring Monitoring in the Distribution System

Chemical	Notification Level	PHG	Average Amount	Range of Detections	Sampling Date
Bromochloroacetic Acid (ppb)	n/a	n/a	1.85	0.8 – 3.5	2018
Bromodichloroacetic Acid (ppb)	n/a	n/a	0.4	ND – 1	2018
Chlorate (ppb)	800	n/a	78	40 – 110	2014
Chlorodibromoacetic Acid (ppb)	n/a	n/a	0.6	0.4 – 0.7	2018
Chromium, Hexavalent (ppb)	n/a	0.02	0.4	0.04 – 1.2	2014
Chromium, Total (ppb)*	MCL = 50	MCLG = 100	0.24	ND – 0.9	2014
Dibromoacetic Acid (ppb)	n/a	n/a	1.7	1.2 – 2.4	2018
Dichloroacetic Acid (ppb)	n/a	MCLG = 0	1.9	0.7 – 3.8	2018
Molybdenum, Total (ppb)	n/a	n/a	4.1	3.2 – 4.8	2014
Strontium, Total (ppb)	n/a	n/a	760	520 – 970	2014
Trichloroacetic Acid (ppb)	n/a	n/a	0.5	ND – 1	2018
Vanadium, Total (ppb)	50	n/a	3.4	2.7 – 4.4	2014

*Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb.
Total chromium was included as part of the unregulated chemicals requiring monitoring.

Source Water Assessments

Imported (MWDSC) Water Assessment

Every five years, MWDSC is required by SWRCB-DDW to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters.

The most recent watershed sanitary surveys of its source water supplies from the Colorado River was updated in 2015 and the State Water Project was updated in 2016.

Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban/stormwater runoff, increasing urbanization in the watershed, and wastewater. Water supplies from Northern California's State Water Project are most vulnerable to contamination from urban/stormwater runoff, wildlife, agriculture, recreation, and wastewater.

USEPA also requires MWDSC to complete one Source Water Assessment (SWA) that utilizes information collected in the watershed sanitary surveys. MWDSC completed its SWA in December 2002. The SWA is used to evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed.

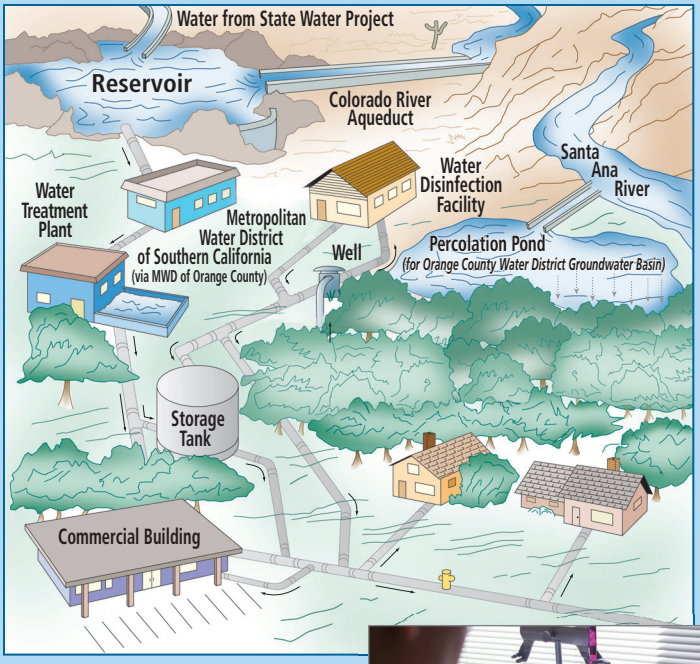
A copy of the most recent summary of either Watershed Sanitary Survey or the SWA can be obtained by calling MWDSC at (800) CALL-MWD (225-5693).

Groundwater Assessment

An assessment of the drinking water sources for the City of Fullerton was completed in May 2002. The groundwater sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply: Chemical/petroleum processing/storage, dry cleaners, gas stations, known contaminant plumes, metal plating/finishing/fabricating, and plastics/synthetics producers. The groundwater sources are considered most vulnerable to the following: Airports – maintenance/fueling areas, confirmed leaking underground storage tanks, and high density housing.

A copy of the complete assessment is available at: State Water Resources Control Board, Division of Drinking Water, 605 W. Santa Ana Blvd., Bldg. 28, Room 325, Santa Ana, California 92701.

You may request a summary of the assessment by contacting: Water Quality Specialist, City of Fullerton, 303 W. Commonwealth Avenue, Fullerton, California 92832-1775, Phone: (714) 738-2835.

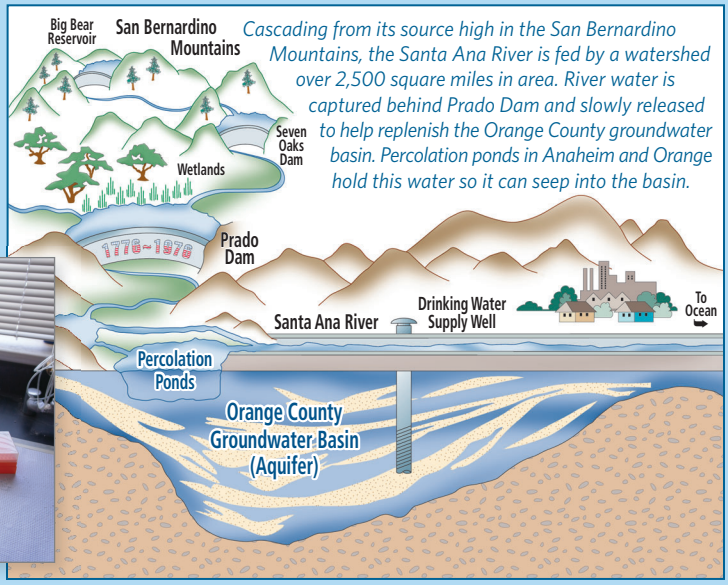


The City of Fullerton – Water System Management vigorously works to ensure the safety of your drinking water and, in conjunction with the Metropolitan Water District and OCWD, continuously monitors the water to verify adherence with drinking water regulations.

How Does Our Water Get to Us?

Importing water from hundreds of miles away is only the start to providing you clean, fresh water. Once the water is in southern California, it is distributed to individual agencies and municipalities throughout the southland by the Metropolitan Water District of Southern California.

The Orange County Water District, which manages the groundwater basin beneath the county, ensures the quality and supply of groundwater throughout its service area. The City of Fullerton sits atop the county aquifer and draws some of its water from this local source.



Cascading from its source high in the San Bernardino Mountains, the Santa Ana River is fed by a watershed over 2,500 square miles in area. River water is captured behind Prado Dam and slowly released to help replenish the Orange County groundwater basin. Percolation ponds in Anaheim and Orange hold this water so it can seep into the basin.

The Need to Conserve Water Remains A High Priority Throughout California

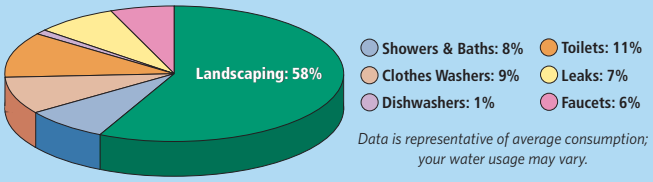
Southern California has an arid climate and the need for wise water use needs to become a part of everyone's daily lives. For as finite as our water resources are, they get smaller every year. Simple water saving acts like the ones listed here can save countless gallons of water every day.

- Check your sprinkler system for leaks, overspray, and broken sprinkler heads and repair promptly. ***This can save countless gallons each time you water.***
- Water plants in the early morning. ***It reduces evaporation and ensures deeper watering.***
- Set sprinkler system for multiple short cycles for each station and allow 30 to 60 minutes for the water to soak into the soil between cycles. ***This will eliminate runoff and save many gallons of water!***
- Use a broom instead of a hose to clean off sidewalks and driveways. ***It takes very little time to sweep and the water savings quickly adds up.***
- Soak pots and pans instead of letting water run while you scrub them clean. ***This both saves water and makes the job easier.***
- Plug the sink instead of running water to rinse your razor or wet your toothbrush. ***This can save upwards of 300 gallons of water a month.***

Where Do We Use Water the Most?

Outdoor watering of lawns and gardens makes up approximately 60% of home water use. By reducing your outdoor water use — by either cutting back on irrigation or planting more drought tolerant landscaping — you can dramatically reduce your overall water use.

Save the most where you use the most: Make your outdoor use efficient.



Data is representative of average consumption; your water usage may vary.

Where Can You Learn More?

There's a wealth of information on the internet about Drinking Water Quality and water issues in general. Some good sites to begin your own research are:

Metropolitan Water District of So. California: www.mwdh2o.com
California Department of Water Resources: www.water.ca.gov
The Water Education Foundation: www.watereducation.org

To learn more about **Water Conservation & Rebate Information**:
www.bewaterwise.com ♦ www.SoCalWaterSmart.com

And to see the Aqueducts in action, checkout these two videos:
Wings Over the State Water Project: youtu.be/8A1v1Rr2neU
Wings Over the Colorado Aqueduct: youtu.be/KipMQh5t0f4

City of Fullerton – Water System Management
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