



Consumer Confidence Report

2019
For the year 2018

CITY of CORONA
Department of Water and Power

"Protecting Public Health"

Message from the General Manager

Practicing water efficiency has now become a way of life in California; particularly, Southern California. We experienced some generous rains this year which have helped replenish the Sierra's snowpack, water reservoirs, lakes & rivers, as well as our landscaping and agriculture. However, California is still a desert climate. As such, it is essential that we continue our water conservation efforts and continue to use water wisely. The City of Corona's residents and businesses have done a fine job in their efforts to use water more efficiently. I encourage the continuation of such efforts so we all continue to work toward the goal of preserving our most critical essential resource – water.

This Consumer Confidence Report provides information with respect to the water produced and distributed in 2018. This summary provides water quality data, outlines where the water comes from, and how it compares to state standards. I am pleased to report that your tap water met all United States Environmental Protection Agency (USEPA) and State drinking water health standards. The Department of Water & Power's staff helped ensure that our system did not exceed any of the primary Maximum Contaminant Levels (MCLs).

I invite you to contact me with any questions on this report or if you need additional information.

Tom Moody
General Manager
951-736-2477
www.CoronaCA.Gov/DWP



Corona's Water Sources

In 2018, Corona residents and businesses used approximately 10.5 billion gallons of drinking water. Corona's water supply comes from different sources: groundwater wells owned and operated by the City of Corona provided 44.4%, 47.1% came through Lake Mathews from the Colorado River, 6.9% was from the State Water Project's California Aqueduct, and the final 1.6% was purchased from Western Municipal Water District's Arlington Desalter treatment facility.

Water Treatment Processes

The surface water from the Colorado River requires treatment to become drinking water. The treatment process is accomplished in the City of Corona's two surface water treatment facilities: Sierra Del Oro and Lester. These facilities incorporate the use of coagulants, which bind small particles together to form larger particles that can be easily removed through multimedia filtration. After

filtration, the water is treated with sodium hypochlorite to kill or inactivate harmful organisms. This part of the process is called disinfection. Through independent laboratory testing, 100% of the samples taken in 2018 were free of harmful organisms.

Most of the groundwater pumped in Corona was sent through a state-of-the-art reverse osmosis membrane treatment facility, the Temescal Desalter. This facility provides treatment of nitrates, per-fluorinated compounds, 1,2,3-Trichloropropane (1,2,3-TCP), perchlorates, and suspended and dissolved solids. A portion of the groundwater pumped is routed through the newly constructed City Park Ion Exchange Treatment Plant which

utilizes two different types of resin, the first treats for perchlorates and the second for nitrates. DWP adds an ammonium hydroxide solution to the disinfected water which in conjunction with sodium hypochlorite forms a compound called chloramines. This chemical acts as a disinfectant in the distribution system and remains active for a longer period of time than sodium hypochlorite alone. It



also helps reducing the formation of disinfection byproducts that could be harmful to health. Disinfection byproducts are formed when some disinfectants, like chlorine, react with naturally occurring organic matter in the water.

Blending

DWP has five blending facilities that blend water with low nitrate, fluoride, perchlorate and Total Dissolved Solids (TDS) with the remaining groundwater sources to deliver safe, reliable drinking water to your tap. You will notice in the tables of detected contaminants that the groundwater exceeded the primary standard for fluoride, nitrate and perchlorate. DWP is required by law to report the range of all samples monitored, as well as the average concentration delivered to your tap. The averages of what you receive at your tap are much lower because DWP treats and blends water from several sources to improve water quality. The blending stations are continuously monitored and routinely sampled to ensure that the water delivered to your tap meets all health standards with a safety margin of no less than 10%. Please refer to the "Treated Average System Water" column in the tables at the end of the report for a more accurate representation of system water quality.

For more information about fluoridation, oral health, and current issues visit: http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.

Governor Brown's Executive Order B-40-17

Governor Edmund G. Brown Jr. ended the drought state of emergency in most of California on April 7, 2017, while maintaining water reporting requirements and prohibitions on wasteful practices, such as watering during or right after rainfall. The State released a long-term plan to better prepare the state for future droughts and make conservation a California way of life. Building on the successes and lessons learned from California's five-year drought, the plan establishes a framework for long-term efficient water use that reflects the State's diverse climate, landscape, and demographic conditions.



Sierra Del Oro Water Treatment Plant

DWP thanks everyone for their overwhelming participation in water conservation over the past years. Thanks to everyone's efforts, Corona conserved nearly 5.5 billion gallons from June 2015 through February 2019, a reduction of 13.0% compared to water used during 2013. We

ask that everyone be water efficient in their water usage, by requiring all residents and businesses in DWP's service area to follow the water use guidelines below:

Water Use Guidelines

- No watering between 10 a.m. and 8 p.m.
- Odd numbered addresses can water on Saturday, Monday, and Wednesday only.
- Even numbered addresses can water on Sunday, Tuesday, and Thursday only.
- Watering on Fridays is prohibited. Since government institutions are not open on weekends, they may water three days per week of the agency's choosing.
- Limit sprinkler times to help conserve water.
- Leaks and broken sprinklers must be fixed in a timely manner.
- Drip irrigation, which waters in gallons per hour, can water for a maximum of 90 minutes per day, provided there is no runoff.
- Water cannot be allowed to run off property.
- All swimming pools, spas, ponds, and fountains shall be equipped with re-circulating pumps.
- Washing hard surfaces is prohibited.
- Vehicles can only be washed using a bucket and a hose with an automatic shut-off nozzle.
- In Corona, food establishments are prohibited from providing drinking water to patrons unless requested.



Rebates for Water Saving Appliances and Devices

Improve the water use efficiency at your home or business by upgrading your appliances and fixtures to water efficient models. DWP offers rebates for a variety of water saving appliances, devices, and fixtures. By upgrading your clothes washer to a high efficiency model you can save an average of 14 gallons of water per day, as well as save on energy. Using less water and energy with a high efficiency clothes washer (HECW) reduces your monthly bills and can save you over \$400 over the lifetime of the HECW. On average, nearly 30% of water usage in the home goes toward flushing the toilet. Rebates are available for residents who replace toilets that use 1.6 gallons per flush (gpf) or more with new 1.06 gpf premium high efficiency toilets. The premium high efficiency toilets that qualify for the rebate have been certified through maximum performance (MaP) testing to ensure performance quality.

DWP offers a \$50 rebate for newly-installed recirculating hot water systems. A recirculating hot water system uses a by-pass valve that connects the cold and hot water supply lines at the fixture that is



farthest away from the water heater. The by-pass valve uses the cold water line as the return loop back to the water heater, continuously recirculating hot water. We also offer free water saving showerheads and faucet aerators for the bathroom and kitchen sinks. You can pick up your free devices at the Utility Billing counter at City Hall or contact the Water Resources Team at 951-736-2234 or e-mail StopTheDrop@CoronaCA.gov.

To help you improve water efficiency outdoors, DWP offers rebates on a variety of devices. Ensure your sprinklers are delivering a uniform and effective spray stream by upgrading your sprinkler nozzles to high efficiency multi-projectory nozzles and get a rebate! Once you have your irrigation system operating efficiently, it's time to upgrade your irrigation timer to a weather-based model that automatically adjusts the watering schedule based on the weather conditions. Never get caught watering during the rain again with a weather-based irrigation controller (WBIC).

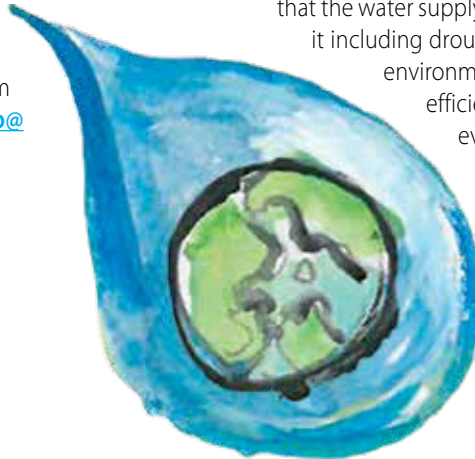
To learn more about the rebates available, visit <https://www.coronaca.gov/government/departments-divisions/departments-of-water-and-power/water-efficiency/residential-programs-rebates>.

Water Efficiency Rebates for Businesses

DWP offers numerous rebates just for businesses to help them improve water efficiency and keep their water bill low. Available rebates for devices and fixtures include:

- Premium High Efficiency Toilets
- Ultra-Low and Zero Water Urinals
- Air Cooled Ice Machines
- Connectionless Food Steamers
- Conductivity and pH Controllers for Cooling Towers
- Weather-Based Irrigation Controllers (WBICs)
- Rotating Nozzles for Pop-Up Spray Heads

For more information on these and other water efficiency rebates available to Corona businesses, contact the Water Resources Team at (951) 736-2234 or e-mail StopTheDrop@CoronaCA.gov.



Water: An Undervalued Resource

Earth is called the blue planet because 71% of its surface is covered with water. Yet only 3% of the earth's water is fresh water that can be used for drinking, with two thirds stored in ice caps and glaciers. That's a small amount of water for everyone on the planet to share. Yet many of us don't think twice about the water that we use every day. All too often, water that has been pumped in from afar and treated for human consumption can be seen running down the storm drains – wasted.

At a cost of less than a penny per gallon, the true value of water is not represented in the price. Water is a precious resource; we all need water to live. The drought California experienced for over five years has proven that the water supply can be highly variable with many factors that affect it including drought, legislative restrictions, water quality issues, and environmental needs. We must always use our resources efficiently and focus on sustainable water supplies. Make every drop count – use water efficiently always.

Reclaimed Water

To improve water supply reliability for the City, DWP developed and built our reclaimed water system in 2006. Utilizing reclaimed water to help meet water demands for the City reduces the impact of imported water supply shortages and costs. The reclaimed water system uses highly treated wastewater from our state-of-the-art water reclamation facilities and distributes it throughout the City. The reclaimed water system is separate from the drinking water system. Reclaimed water pipes, sprinkler caps, and signage are painted purple to easily identify them as part of the reclaimed water system. Reclaimed water is used primarily on landscaping at parks, schools, parkway areas, and a few commercial buildings. By re-using water, we save potable water for our homes and businesses. A rebate incentive is offered for businesses that convert their landscape irrigation and/or process operation water use to reclaimed water. Save water and get funding assistance to cover the cost of the conversion. Contact the Water Resources Team at (951) 736-2234 or by e-mail at StopTheDrop@CoronaCA.gov to see if your business qualifies.

The City of Corona's reclaimed water system infrastructure consists of approximately 55 miles of pipeline, three storage tanks, and six pump stations.

Of the reclaimed water produced, 1.49 billion gallons went into the reclaimed water distribution system for customer use. We currently have 378 connections, and are continually adding new sites.

From Your Drain to the Environment – Keep It Clean

While water reclamation treatment removes most pollutants, even trace amounts of some substances may be harmful to the environment. The best solution is to prevent pollution from going down the drain in the first place.

Dispose of unwanted medicine properly... No Drugs Down the Drain!

For years, unwanted medicine was flushed down the drain to protect children and pets from accessing it and to ensure against illegal recovery of controlled substances. Today, there are better options. Please visit the U.S. Food and Drug Administration website for more information on how

to dispose of unused medicine. <https://www.fda.gov/consumers/consumer-updates/where-and-how-dispose-unused-medicines>



Keep drains free of FOG – Fats, Oils and Grease

When washed down the drain, cooking fats, oils, and grease, aka “FOG,” can block sewer lines, causing raw sewage to back up into your home or into neighborhood streets and storm drains. Overflows can be costly, and pose health and environmental hazards. Keep your sewer lines FOG-free by scraping cooking fats into the garbage or into your food scrap recycling bin, where available – not down the drain.

Sanitary wipes is another item that often causes blockages in the sewer lines. They should be kept away from drains and should not be flushed down the toilet.

General Water Quality Information

Drinking water sources (both tap 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.

Contaminants that may be present 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, 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 that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants that 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, the 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.

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. 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. These people should seek advice from their health care providers about drinking water. 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)**.



Nitrate

Nitrate in drinking water at levels above 10 mg/L as nitrogen is a health risk especially for infants of less than six months of age because it can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 ppm may also affect the ability of the blood to carry oxygen in other

individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Source Water Assessment

In accordance with the Federal Safe Drinking Water Act (SDWA), the SWRCB Division of Drinking Water and Environmental Management developed a program, called the Drinking Water Source Assessment and Protection (DWSAP) Program, to assess the vulnerability of drinking water sources to contamination. Assessments of the drinking water sources for the City of Corona were completed in February 2012. The assessment concluded that the City of Corona's sources are considered most vulnerable to the

following activities not associated with any detected contaminants in the water supply: automobile – gas stations, chemical/petroleum pipelines, chemical/ petroleum processing/storage, dry cleaners, historic gas stations, machine shops, metal plating/finishing/fabricating, mining sand/gravel, NPDES/WDR permitted discharges, plastics/synthetics producers, septic systems – low density [<1 /acre], sewer collection systems, underground storage tanks – confirmed leaking tanks, utility stations – maintenance areas, and wastewater treatment plants. A copy of the complete assessments is available through the City of Corona's City Clerk's office at 400 S. Vicentia, Corona, CA 92882, or by using the online Public Records Request form at <https://www.coronaca.gov/government/departments-divisions/city-clerk/public-records-request>.

Lead and Copper Rule Monitoring

The Lead and Copper Rule (LCR) was developed to protect public health by minimizing lead and copper levels in drinking water. The LCR established an action level of 15 parts per billion (ppb) for lead and 1.3 parts per million (ppm) for copper based on the 90th percentile level of tap water samples collected. Lead and copper are sampled on a mandated three year testing cycle with sampling conducted at the customer's tap.

Parameter	Units	State MCL	PHG	State DLR	Date Sampled	90 th Percentile	No. Sites Sampled	No. Sites Exceeding AL
Lead	ppb	AL=15	0.2	5	2017	4	53	3
Copper	ppm	AL=1.3	0.3	0.05	2017	0.077	53	0

AL	Allowable Levels	ppb	Parts per billion or micrograms per liter ($\mu\text{g/L}$)
DLR	Detection Limits for purposes of Reporting	ppm	Parts per million or milligrams per liter (mg/L)
MCL	Maximum Contaminant Level		
PHG	Public Health Goal		

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 Corona 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 to 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/lead>.

Primary Standards – Mandatory Health-Related Standards

CLARITY

Please see pages 19-21 for key to abbreviations and footnotes

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	WATER SOURCE		MAJOR SOURCES IN DRINKING WATER
Combined Filter Effluent Turbidity	%	95(a)	NA	–	% < 0.3	100	Metropolitan Water District Henry J. Mills Water Treatment Plant	Soil runoff
	NTU	TT 0.3			Highest	0.08		
Combined Filter Effluent Turbidity	%	95(a)	NA	–	% < 0.3	100	City of Corona, Lester & Sierra Del Oro	Soil runoff
	NTU	TT 0.3			Highest	0.07		

MICROBIOLOGICAL CONTAMINANTS

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	REGULATED IN DISTRIBUTION SYSTEM	MAJOR SOURCES IN DRINKING WATER
Total Coliform Bacteria (State Total Coliform Rule)	%	5.0 (b)	(0)	–	–	Highest % of positive samples collected in any one month = 1%	Naturally present in the environment
Fecal Coliform and E. Coli (State Total Coliform Rule)	(c)	(c)	(0)	–	–	Total number of positive samples collected in 2018 = 0	Human and animal fecal waste
Total Coliform Bacteria (Federal Total Coliform Rule)	%	TT (d)	–	–	–	Highest % of positive samples collected in any one month = 1%	Naturally present in the environment
Fecal Coliform and E. Coli (Federal Total Coliform Rule)	(e)	(e)	(0)	–	–	Total number of positive samples collected in 2018 = 0	Human and animal fecal waste
Heterotrophic Plate Count (HPC)	CFU/mL	TT	NA	NA	Range	Distribution System Wide: ND-1,200	Naturally present in the environment
					Average	Distribution System Wide: 8	

RADIOACTIVE CONTAMINANTS

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	STATE PROJECT WATER	COLORADO RIVER WATER	ARLINGTON DESALTER	GROUND WATER	TREATED AVERAGE SYSTEM WATER	MAJOR SOURCES IN DRINKING WATER
Gross Alpha Particle Activity (k)	pCi/L	15	(0)	3	Range	ND	ND-3.2	3.31	ND-16.5	–	Erosion of natural deposits
					Average	ND	ND	3.31	5.82	–	
Uranium	pCi/L	20	0.43	1	Range	ND	2.8-3.3	2.37	ND-18	–	Erosion of natural deposits
					Average	ND	3.1	2.37	6.78	–	

Primary Standards – (continued)

INORGANIC CONTAMINANTS

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	STATE PROJECT WATER	COLORADO RIVER WATER	ARLINGTON DESALTER	GROUND WATER	TREATED AVERAGE SYSTEM WATER	MAJOR SOURCES IN DRINKING WATER
Arsenic	µg/L	10	0.004	2	Range	ND	2.3	ND	ND-7.2	ND-3.9	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
					Average	ND	2.3	ND	2.4	2.5	
Barium	mg/L	1	2	0.1	Range	ND	0.12	ND	ND-0.9	ND-0.1	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
					Average	ND	0.12	ND	0.2	ND	
Fluoride (h, t)	mg/L	2.0	1	0.1	Range	0.6-0.9	0.3	ND	0.24-0.42	ND-0.76	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
					Average	0.8	0.3	ND	0.30	0.27	
Nitrate (as Nitrogen) (k, t)	mg/L	10 (as N)	10 (as N)	0.4	Range	0.6	ND	3.8-5	2.4-20	ND-7.2	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
					Average	0.6	ND	4.4	11	3.6	
Perchlorate (k, t)	µg/L	6	1	4	Range	ND	ND	ND	ND-9	ND	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts.
					Average	ND	ND	ND	ND	ND	
Selenium	µg/L	50	30	5	Range	ND	ND	ND	ND-14	ND	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
					Average	ND	ND	ND	ND	ND	

SYNTHETIC ORGANIC CONTAMINANTS (INCLUDING PESTICIDES/PCBs)

Dibromochloropropane (DBCP)	ng/L	200	1.7	10	Range	ND	ND	ND	ND-29	ND	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
					Average	ND	ND	ND	ND	ND	

Primary Standards – (continued)

SYNTHETIC ORGANIC CONTAMINANTS (INCLUDING PESTICIDES/PCBs) – continued

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	STATE PROJECT WATER	COLORADO RIVER WATER	ARLINGTON DESALTER	GROUND WATER	TREATED AVERAGE SYSTEM WATER	MAJOR SOURCES IN DRINKING WATER
1,2,3-Trichloropropane (1,2,3-TCP)(k, t, u)	µg/L	0.005	0.0007	0.005	Range	ND	ND	–	ND-0.037	ND	Discharge from industrial and agricultural chemical factories; leaching from hazardous waste sites; used as cleaning and maintenance solvent, paint and varnish remover, and cleaning and degreasing agent; byproduct during the production of other compounds and pesticides.
					Average	ND	ND	–	ND	ND	

VOLATILE ORGANIC CONTAMINANTS

Tetrachloroethylene (PCE)	µg/L	5	0.06	0.5	Range	ND	ND	ND	ND-0.63	ND	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
					Average	ND	ND	ND	ND	ND	
Trichloroethylene (TCE)	µg/L	5	1.7	0.5	Range	ND	ND	ND	ND-1.6	ND	Discharge from metal degreasing sites and other factories
					Average	ND	ND	ND	0.67	ND	

Secondary Standards – Aesthetic Standards

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	STATE PROJECT WATER	COLORADO RIVER WATER	ARLINGTON DESALTER	GROUND WATER	TREATED AVERAGE SYSTEM WATER	MAJOR SOURCES IN DRINKING WATER
Aluminum (i)	µg/L	200	600	50	Range	ND-120	ND	ND	ND	ND-370	Erosion of natural deposits; residual from some surface water treatment processes
					Max RAA	58	ND	ND	ND	200	
Chloride	mg/L	500	NA	NA	Range	79-91	90-95	40-42	54-260	30-110	Runoff/leaching from natural deposits; seawater influence
					Average	85	92	41	152	71	
Corrosivity (as Aggressiveness Index)	Al	NA	NA	NA	Range	11.9-12.1	–	–	12-13	10-12	Elemental balance in water; affected by temperature, other factors
					Average	12	–	–	13	12	
Manganese (f, k)	µg/L	50	NL=500	20	Range	ND	ND	ND	ND-62	ND	Leaching from natural deposits
					Average	ND	ND	ND	ND	ND	
Odor Threshold	Units	3	NA	NA	Range	2	7	ND	ND-2	2	Naturally-occurring organic materials
					Average	2	7	ND	1	2	
Specific Conductance (k)	µS/cm	1600	NA	NA	Range	514-518	981-1,010	385-796	900-2,000	212-1,090	Substances that form ions when in water; seawater influence
					Average	516	996	448	1,373	650	

Secondary Standards – Aesthetic Standards

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	STATE PROJECT WATER	COLORADO RIVER WATER	ARLINGTON DESALTER	GROUND WATER	TREATED AVERAGE SYSTEM WATER	MAJOR SOURCES IN DRINKING WATER
Sulfate	mg/L	500	NA	0.5	Range	43-46	224-240	42-47	140-380	3.6-230	Runoff/leaching from natural deposits; industrial wastes
					Average	44	232	45	211	115	
Total Dissolved Solids (j, k, t)	mg/L	1000	NA	NA	Range	239-244	612-637	230-260	530-1,300	140-730	Runoff/leaching from natural deposits
					Average	242	624	249	890	400	
Turbidity	NTU	5	NA	NA	Range	ND	0.7-1.4	ND-0.15	ND-0.13	ND-0.11	Soil runoff
					Average	ND	1.1	ND	0.05	0.04	

Unregulated Contaminants with No MCLs (g)

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	STATE PROJECT WATER	COLORADO RIVER WATER	ARLINGTON DESALTER	GROUND WATER	TREATED AVERAGE SYSTEM WATER	HEALTH EFFECTS
Boron (p)	mg/L	NA	NL=1	0.1	Range	0.16	0.13	-	0.39-0.45	0.13-0.3	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
					Average	0.16	0.13	-	0.41	0.22	
Hexavalent Chromium (v)	µg/L	NA	0.02	1	Range	ND	ND	-	ND-1.9	ND	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits.
					Average	ND	ND	-	ND	ND	
Perfluorooctanoic acid (PFOA)	ng/L	NA	NL=14	NA	Range	-	-	-	ND-200	ND-27	Perfluorooctanoic acid exposures resulted in increased liver weight in laboratory animals.
					Average	-	-	-	51	6.1	
Perfluorooctanesulfonate acid (PFOS)	ng/L	NA	NL=13	NA	Range	-	-	-	ND-200	ND-24	Perfluorooctanesulfonic acid exposures resulted in immune suppression, specifically, a decrease in antibody response to an exogenous antigen challenge.
					Average	-	-	-	48	5.2	
Vanadium	µg/L	NA	NL=50	3	Range	ND	ND	5.5-6.1	ND-7.5	ND-4	The babies of some pregnant women who drink water containing vanadium in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
					Average	ND	ND	5.8	4.1	ND	

Federal Unregulated Contaminants Monitoring Rule (UCMR 3) (s)

LIST 1 – ASSESSMENT MONITORING

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	DISTRIBUTION SYSTEM
1,4-Dioxane	µg/L	NA	NA	0.07	Range	ND-0.14
					Average	ND
Chlorate	µg/L	NA	NA	20	Range	75-360
					Average	155
Chromium	µg/L	NA	NA	0.2	Range	ND-0.52
					Average	ND
Hexavalent Chromium (Dissolved)	µg/L	NA	NA	0.03	Range	ND-0.43
					Average	0.134
Molybdenum	µg/L	NA	NA	1	Range	ND-17
					Average	3.6
Strontium	µg/L	NA	NA	0.3	Range	25-1,100
					Average	591
Vanadium	µg/L	NA	NA	0.2	Range	ND-6.4
					Average	2.4
Perfluoro octanesulfonic acid - PFOS	µg/L	NA	NA	0.04	Range	ND-0.046
					Average	ND
Perfluoroctanoic acid - PFOA	µg/L	NA	NA	0.02	Range	ND-0.042
					Average	ND
Perfluoroheptanoic acid - PFHpA	µg/L	NA	NA	0.01	Range	ND-0.013
					Average	ND

Federal Unregulated Contaminants Monitoring Rule (UCMR 4) (x)

HALOACTIC ACID (HAA) GROUP

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	DISTRIBUTION SYSTEM
HAA5 (o)	µg/L	NA	NA	NA	Range	ND-15.8
					Average	6.35
HAA6Br (y)	µg/L	NA	NA	NA	Range	ND-13.91
					Average	6.32
HAA9 (z)	µg/L	NA	NA	NA	Range	ND-26.1
					Average	10.86
Total Organic Carbon	µg/L	NA	NA	NA	Range	ND-2,600
					Average	1,733
Bromide	µg/L	NA	NA	NA	Range	ND-32
					Average	20

Water-saving Tip: *If your dishwasher is new, cut back on rinsing. Newer models clean more thoroughly than older ones.*

Other Parameters

CHEMICAL	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	STATE PROJECT WATER	COLORADO RIVER WATER	ARLINGTON DESALTER	GROUND WATER	TREATED AVERAGE SYSTEM WATER
Alkalinity	mg/L	NA	NA	NA	Range	66-74	109-123	82-110	130-350	29-110
					Average	70	116	93	235	73
Bicarbonate	mg/L	NA	NA	NA	Range	–	–	82-110	160-430	35-150
					Average	–	–	93	287	89
Calcium	mg/L	NA	NA	NA	Range	16-20	67-69	29-30	60-200	5.4-79
					Average	18	68	29	131	41.3
Hardness (q)	mg/L	NA	NA	NA	Range	86-98	272-278	120	220-700	18-350
					Average	92	275	120	473	163
Magnesium	mg/L	NA	NA	NA	Range	11-12	26	10-11	16-72	1.2-29
					Average	12	26	11	36	14.5
pH	pH Units	NA	NA	NA	Range	8.4-8.5	8.1-8.2	6.85-8.6	6.3-7.8	7.5-8.9
					Average	8.5	8.1	8.1	7	8.1
Potassium	mg/L	NA	NA	NA	Range	2.8-2.9	4.6	1-1.1	1-10	ND-5
					Average	2.8	4.6	1.05	4.1	3
Sodium (r)	mg/L	NA	NA	NA	Range	62-63	92-93	39	53-180	35-96
					Average	62	92	39	114	68

Water-saving Tip: Turn off the water while washing your hair.
Save up to 150 gallons per month.

Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors Federal Rule (m)

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE/ LRAA/RAA	DISTRIBUTION SYSTEM WIDE	MAJOR SOURCES IN DRINKING WATER	HEALTH EFFECTS LANGUAGE
Total Trihalomethanes (TTHMs) (n)	µg/L	80	NA	1	Range	ND-31	Byproduct of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer.
					LRAA	27		
HAA5 (o)	µg/L	60	NA	1	Range	ND-26	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
					LRAA	13.3		
Bromate (Mills - WR-24 Conn.) (l)	µg/L	10	0.1	1	Range	ND-10	Byproduct of drinking water disinfection	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
					Max RAA	3.7		
Chloramines	mg/L	[4 as Cl ₂]	[4 as Cl ₂]	NA	Range	0.4-2.98	Drinking water disinfectant added for treatment	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
					Max RAA	1.8		
Control of DBP precursors (TOC)	mg/L	TT	NA	0.3	Range	1.9-3.2	Various natural and manmade sources	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer.
					Average	2.6		

Water-saving Tip: Put a few drops of food coloring into your toilet tank. If after fifteen minutes the color appears in the bowl, your toilet has a water-wasting leak. Check your toilet for leaks regularly.

Key to Abbreviations

CFU/mL	Colony-Forming Units per Milliliter	MBAS	Methylene Blue Active Substances	NTU	Nephelometric Turbidity Units	ng/L	Nanograms per liter or parts per trillion (ng/L)
DBP	Disinfection Byproducts	N	Nitrogen	pCi/L	PicoCuries per liter	RAA	Running Annual Average
DLR	Detection Limits for purposes of Reporting	NA	Not Applicable	µg/L	Micrograms per liter or parts per billion (ppb)	TOC	Total Organic Carbon
LRAA	Locational Running Annual Average	ND	Not Detected	mg/L	Milligrams per liter or parts per million (ppm)	µS/cm	microSiemen per centimeter; or micromho per centimeter (µmho/cm)
		NL	Notification Level				

Extended Abbreviations

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 (AL): 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.

Water-saving Tip: *When washing your hands, turn the water off while you lather.*

Footnotes

- (a) The turbidity level of the filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. Turbidity, a measure of the cloudiness of the water, is an indicator of treatment performance. The averages and ranges of turbidity shown in the Secondary Standards were based on the treatment plant effluent.
- (b) Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. Compliance is based on the combined distribution system sampling from all the treatment plants. In 2018, 1567 samples were analyzed and one was positive for total coliform. The MCL was not violated.
- (c) E. coli MCL: The occurrence of two consecutive total coliform-positive samples, one of which contains E. coli, constitutes an acute MCL violation. The MCL was not violated.
- (d) Total coliform TT trigger, Level 1 assessments, and total coliform TT violations: More than 5.0% total coliform-positive samples in a month trigger Level 1 assessments. Failure to conduct assessments and correct findings within 30 days is a total coliform violation. No triggers, Level 1 assessments, or violations occurred.
- (e) E. coli MCL and Level 2 TT triggers for assessments: Routine and repeat samples are total coliform-positive and either sample is E. coli-positive or system fails to collect all repeat samples following an E. coli-positive sample, or fails to test for E. coli when the repeat sample is total coliform-positive. No samples were E. coli-positive. No MCLs violations or no assessments occurred.
- (f) The high concentration of Manganese is from one groundwater well; refer to the "Treated Average System Water" column for a more accurate representation of system water quality.
- (g) Unregulated contaminant monitoring helps the USEPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.
- (h) City of Corona was in compliance with all provisions of the State's Fluoridation System Requirements. This is part of the City of Corona's blending plan to reduce the levels of fluoride being delivered to the consumer's tap. Refer to the "Treated Average System Water" column for a more accurate representation of system water quality.
- (i) Aluminum has a secondary standard limit. In 2018, the secondary standard limit was exceeded but the maximum running annual average (Max RAA) was in compliance. Our current Max RAA for 2019 is 102 ug/L.
- (j) Total Dissolved Solids (TDS) is a measure of the total amount of all the materials that are dissolved in water. These minerals, both natural and anthropogenic (made by humans), are mainly inorganic solids, with a minor amount of organic material.
- (k) This constituent was detected at levels exceeding the MCL, results shown in bold. Please note that this water is blended with water from other sources to provide customers with the highest quality drinking water.



Lester Plant Chemical Tank Farm

- (l) Reported from Mills Filtration Plant Metropolitan Water District (MWD). Mills MWD water is blended with other Corona water sources. Please note that this water is blended with water from other sources to provide customers with the highest quality drinking water.
- (m) The City of Corona was in compliance with all provisions of the Stage 2 Disinfectants and Disinfection Byproducts Rules (D/DBP). Compliance was based on the locational running annual average (LRAA). The average reported reflects the highest TTHM and HAA5 LRAAs for the year.
- (n) Total Trihalomethanes is the sum of bromodichloromethane, bromoform, chloroform, and dibromochloromethane.
- (o) HAA5 is the sum of dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, dibromoacetic acid, and monochloroacetic acid.
- (p) The sources that were detected for Boron are all directed to the Temescal Desalter for reverse osmosis treatment. The treated water is monitored at the effluent of the facility which is represented in the "Treated Average System Water" column.
- (q) Hardness is the sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally occurring.
- (r) Sodium refers to the salt present in the water and is generally naturally occurring.
- (s) Data was collected in 2014 and reported per UCMR 3 guidance. Minimum reporting levels are as stipulated in the Federal UCMR 3. List 1 - Assessment Monitoring consists of 21 chemical contaminants for which standard analytical methods were available. All analyses conducted by contract laboratories. Values listed in state DLR column are federal minimum reporting levels.
- (t) Fluoride, nitrate, perchlorate, TDS, and 1,2,3-TCP are a part of Corona's blending remediation plan to reduce the levels being delivered to the consumer's tap. Refer to the "Treated Average System Water" column for a more accurate representation of system water quality.
- (u) 1,2,3-Trichloropropane (1,2,3-TCP) had a notification level (NL) of 0.005 ug/L until December 14, 2017, when the MCL of 0.005 ug/L became effective. 1,2,3-TCP was monitored quarterly in Corona's source and treated waters for the State's initial monitoring requirement and continues to be monitored per our Blending Plan requirements.
- (v) There is currently no MCL for hexavalent chromium. The previous MCL of 0.010 mg/L (10 ug/L) was withdrawn on September 11, 2017. However, any hexavalent chromium results above the detection limit of 0.0001 mg/L (1 ug/L) have been reported.
- (w) Results included in this section range from 2009-2017. Levels reported for gross alpha were determined using the net gross alpha calculation.
- (x) UCMR 4 sampling began in 2018. Minimum reporting levels are as stipulated in the Federal UCMR 4. Monitoring under UCMR 4 will continue through 2019 and detected results will be included in the CCR.
- (y) HAA6Br: Bromochloroacetic acid, bromodichloroacetic acid, dibromoacetic acid, dibromochloroacetic acid, monobromoacetic acid, and tribromoacetic acid.
- (z) HAA9: Bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, tribromoacetic acid, and trichloroacetic acid.

Frequently Asked Questions

How hard is my water?

Hardness is dissolved minerals, including calcium and magnesium. This may cause a deposit or water spots on fixtures and dishes. Our average hardness in the system is 145 ppm or 9.5 grains per gallon, which is classified as hard. Our water hardness can change depending on the water demand and the season.



When I turn on my kitchen or bathroom faucet, the water comes out white. What is wrong?

Dissolved air in the water causes a milky appearance. When you open your faucet, the pressure is relieved and this allows the air to form bubbles that rise to the top of the glass. It will clear within a minute, beginning at the bottom of the glass. The water is safe to drink.

How do I flush my water heater?

We have general instructions for flushing your water heater; for specific instructions consult your user's manual or look on the manufacturer's website. Below are general instructions; for more information, please call 951-736-2234.

1. Turn the gas valve to "pilot."
2. Hook up a garden hose to the water heater and find a proper location to drain the water; use caution – water will be hot when it comes out.
3. Open the valve until all of the hot water has drained from the water heater.
4. Close the valve where the garden hose is hooked up.
5. Allow the heater to fill up, and then close the cold water supply on top of the water heater.

6. Open up the hose bib again and let it drain.
7. Repeat the cycle a couple of times.
8. Disconnect the garden hose, turn the water supply back on and turn the gas valve to the “on” position.

My water pressure has been very high recently, what’s wrong?

The City has six separate water pressure zones. Your pressure should be constant throughout the day, but may decrease when system demands go up, such as during the night when a lot of water is used for irrigation. If your pressure has suddenly increased, it may mean that your pressure regulator needs to be adjusted or replaced. Call us at 951-736-2234 and we will be happy to help troubleshoot the issue for you.

There is odor coming from my water, what’s wrong? Is the water safe to drink?

We sometimes receive phone calls from customers stating that their water smells. However, the source of the odor is usually not the water, but from something else in the home. To test this, simply fill a glass with water and smell it. If the water itself does not smell, but you still smell the odor, there could be another issue such as a sink that needs to have the garbage disposal cleaned or run. A front loading washing machine can also develop an odor from mold if the lid remains closed.

To view this report in another language, please go to www.CoronaCA.Gov/CCRTranslation and select the language of your choice.

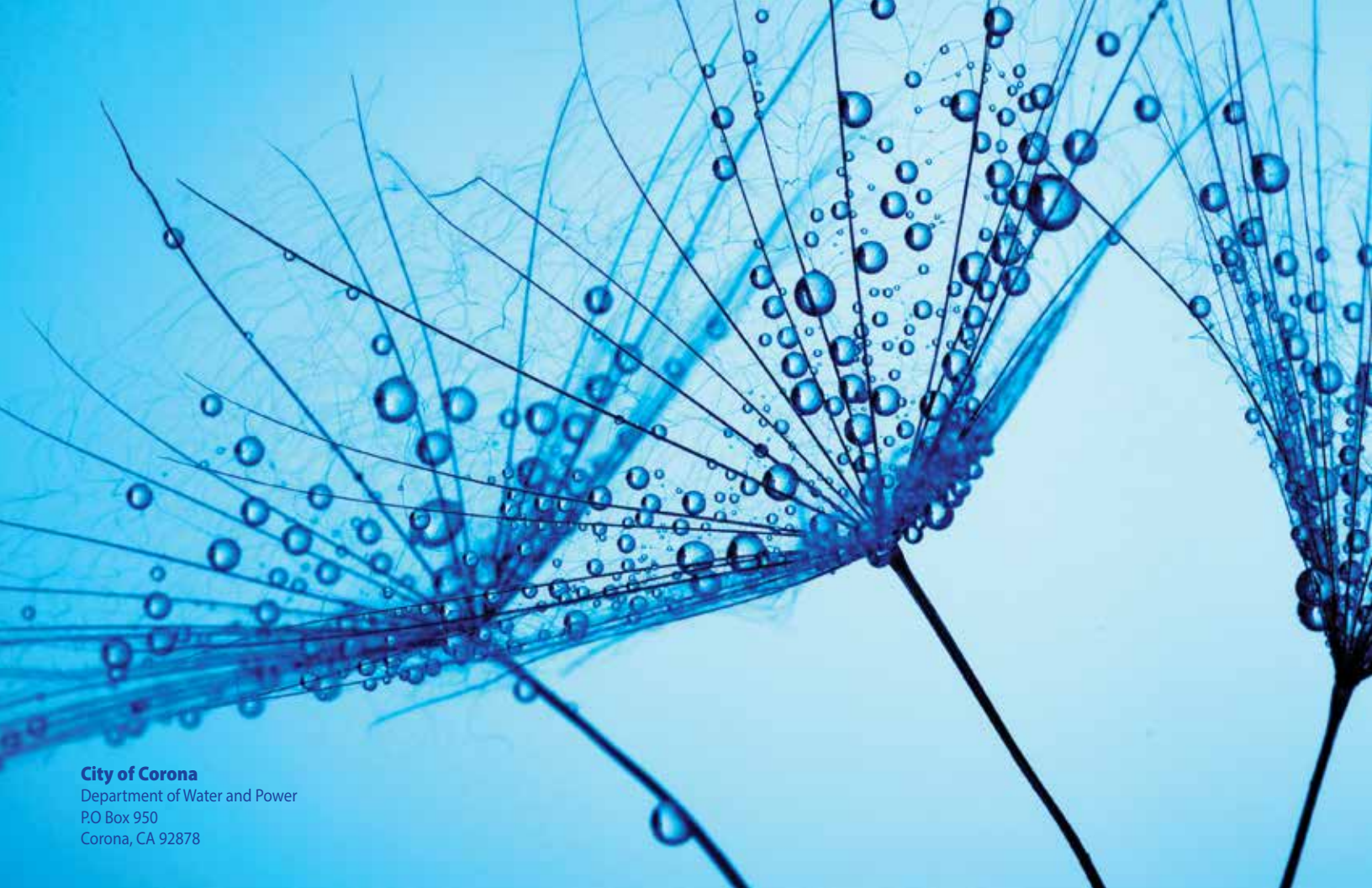
Español: Este informe contiene información muy importante sobre su agua potable. Visite la siguiente página desde el 1ro de Julio y use la opción del traductor para traducir el informe al idioma de su preferencia: www.CoronaCA.Gov/CCRTranslation.

If you are interested in participating in decisions that affect the quality and supply of the water in the City of Corona, or for general information about this report and questions related to water quality, please call 951-736-2234.

Regular City Council meetings are held on the first and third Wednesday of every month.

Did you know?

- There are 748 gallons of water in one unit of water.
- One acre-foot of water equals 325,829 gallons or 435.6 billing units.
- One acre-foot of water can supply two typical families with water for a whole year.
- A leaky toilet can waste between 30 to 500 gallons of water per day.



City of Corona

Department of Water and Power

P.O. Box 950

Corona, CA 92878