

Consumer Confidence Report

2017 for the year 2016



CITY of CORONA

Department of Water and Power

"Protecting Public Health"

Message from the Assistant General Manager

Last year, as in years past, your tap water met all United States Environmental Protection Agency (USEPA) and State drinking water health standards. The City of Corona Department of Water and Power (DWP) vigilantly safeguards its water supplies, and once again, we are proud to report that our system did not exceed any of the Maximum Contaminant Levels (MCLs) or any other water quality standard. This report is a snap shot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards. We are committed to providing you with information because informed customers are our best customers.

This year, California experienced a very wet winter which lead to Governor Brown rolling back the drought state of emergency in California. I want to take this opportunity to express gratitude to every resident and business in Corona for your tremendous conservation efforts during the drought. We saved nearly 20% during the drought period! This was a huge accomplishment for the City.

That being said, we still live in a dry and arid climate and we must continue to be vigilant in reducing water waste. Our new campaign slogan is "Water Efficiency Always." We are asking Corona to make

water efficiency a priority to help ensure our water supply remains healthy for years to come. Please help us reduce water waste by fixing leaks and broken sprinklers quickly, and watering your landscaping according to the current watering guidelines. The watering guidelines can be found on our website at www.CoronaDWP.org. Thank you again for your commitment to Corona and for helping us achieve our water conservation goals. We couldn't do it without you!

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

Tom Moody
Assistant General Manager
951-736-2477
www.CoronaDWP.org



Corona's Water Sources

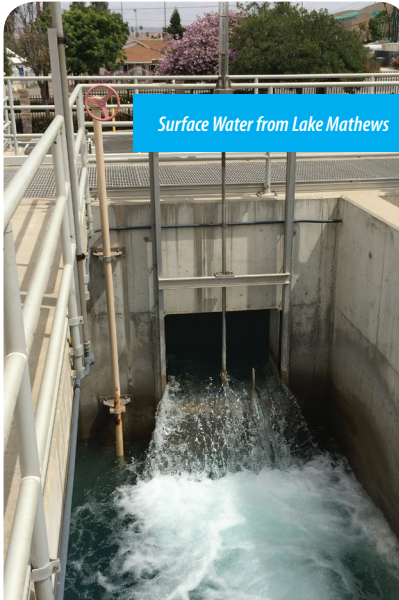
In 2016, Corona residents and businesses used approximately 9.7 billion gallons of drinking water. Corona's water supply comes from three main sources: local groundwater, the Colorado River and the State Water Project in Northern California. Groundwater wells owned and operated by the City of Corona provided 47.5% of our water supply, 44.8% came through Lake Mathews from the Colorado River, 6.7% was from the State Water Project's California Aqueduct and the final 1% 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 (NaOCl)

to kill or inactivate harmful organisms. This part of the process is called disinfection. Through independent laboratory testing, 100% of the samples taken in 2016 were free of harmful organisms.

About half of the groundwater pumped in Corona is sent through a state-of-the-art reverse osmosis membrane treatment facility, the Temescal Desalter. This facility provides removal of nitrates, per-fluorinated compounds, 1,2,3-Trichloropropane (123-TCP), perchlorates, and suspended and dissolved solids. Addition of NaOCl is also performed at this facility to maintain chlorine residual in the water distribution system and act as a disinfectant. DWP adds an ammonium hydroxide (NH₄OH) solution to the disinfected water which in conjunction with NaOCl 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 NaOCl alone. It also helps reducing the formation of disinfection by products 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 exceeds 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

Following water conservation and plentiful winter rain and snow, 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.

Corona's Response to the Governor's Mandate

DWP thanks everyone for their overwhelming participation in conservation over the year. Thanks to everyone's efforts Corona conserved nearly 3.7 billion gallons from June 2015 through March 2017, a reduction of 18% 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.
- 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 runoff property.
- Leaks and broken sprinklers must be fixed in a timely manner.
- 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 hose with an automatic shut-off nozzle.
- 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. For inside the home, DWP offers several rebates to help you conserve water. 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 performance tested and certified through 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 precision nozzles. For larger areas, consider upgrading your rotors 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 www.DiscoverCoronaDWP.com/conservation/res-rebates.shtml.

Water Efficiency Rebates for Businesses

DWP offers numerous rebates just for businesses to help them improve water efficiency and keep the water bill low. Available rebated 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 2/3 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 a 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 over the past 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.



Tour Our Facilities: In Person or On the Web!

A lot goes on behind the scenes to provide our customers with clean and affordable drinking water. Do you want to learn more about how your water is treated and delivered? Are you interested in seeing how we produce reclaimed water? If you have any questions about our water supply or water reclamation facilities, or you're just curious, we encourage you to attend one of our facility tours. Visit our website at

<http://www.DiscoverCoronaDWP.com/education/facility-tour.shtml>, email us at StopTheDrop@CoronaCA.gov, or contact our Water Resources Team at 951-736-2234 to sign up for an upcoming tour. You must be at least 18 years old and a customer of the DWP to attend. Don't have the spare time to come on a tour? The DWP has created 11 videos of our facilities and services for you to watch from the convenience of your home computer or tablet. Simply go to our website at <http://www.DiscoverCoronaDWP.com/about/video.shtml>.

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 completely separate from the drinking water system; pipes, sprinkler caps and signage are colored 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 some 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 infrastructure for the reclaimed water system consists of approximately 54.6 miles of pipeline, three storage tanks, and four pump stations. Of the reclaimed water produced, 1.77 billion gallons went into the reclaimed water distribution system for customer use. We currently have 345 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. The City of Corona DWP and the Police Department are working together to protect our environment from the harmful effects of improperly discarded, unused medications. Unused medication can be dropped off at the Corona Police Department by appointment only. For more information, please call 951-736-2330.

Keep drains free of FOG – Fats, Oils and Grease

When washed down the drain, cooking fats, oils, and grease, or “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, or into the garbage – not down the drain.

General Water Quality Information

The sources of drinking water (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 organic chemicals 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. SWRCB regulations also establish limits for contaminants in bottled water that 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. 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 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)**.

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems are required to comply with the state Total Coliform Rule. Beginning April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and *E. coli* bacteria). The USEPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct



*Temescal Desalter Reverse Osmosis
Treatment Plant*

an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.

Nitrate

Nitrate in drinking water at levels above 45 ppm is a health risk especially for infants of less than six months of age. Such nitrate levels in drinking water 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 parts per million (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 most recently 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 [$<1/\text{acre}$], sewer collection systems, underground storage tanks – confirmed leaking tanks, utility stations – maintenance areas, and wastewater treatment plants. A copy of the complete assessments are 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 <http://www.DiscoverCorona.com/Online-Services/Public-Records-Request.aspx>.

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	2014	2	50	0
Copper	ppm	AL=1.3	0.3	0.05	2014	0.11	50	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 for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/lead>.

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

Primary Standards – Mandatory Health-Related Standards

CLARITY

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	Metropolitan Water District, Henry J. Mills Water Treatment Plant	Soil runoff
	NTU	TT 0.3			Highest 0.1		
Combined Filter Effluent Turbidity	%	95(a)	NA	–	% < 0.3	City of Corona, Lester & Sierra Del Oro Water Treatment Facilities	Soil runoff
	NTU	TT 0.3			Highest 0.08		

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 2016 = 0	Human and animal fecal waste
Total Coliform Bacteria (Federal Total Coliform Rule)	%	TT (s)	–	–	–	Highest % of positive samples collected in any one month = 1%	Naturally present in the environment
Fecal Coliform and E. Coli (Federal Total Coliform Rule)	(t)	(t)	(0)	–	–	Total number of positive sample collected in 2016 = 0	Human and animal fecal waste
Heterotrophic Plate Count (HPC)	CFU/mL	TT	N/A	N/A	Range	Distribution System Wide: ND-1,500	Naturally present in the environment
					Average		

RADIOACTIVE CONTAMINANTS(u)

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	pCi/L	15	(0)	3	Range	ND-4	ND-4	5.96	ND-8.8	–	Erosion of natural deposits
					Average	ND	3	5.96	1.84	–	
Uranium	pCi/L	20	0.43	1	Range	ND-4	2-3	2.69	ND-18	–	Erosion of natural deposits
					Average	2	3	2.69	4.79	–	

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	ppb	10	0.004	2	Range	2.5	2.4	ND	ND-3.2	ND-2.7	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
					Average	2.5	2.4	ND	ND	ND	
Barium	ppm	1	2	0.1	Range	ND	0.14	ND	ND-0.18	ND-0.13	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
					Average	ND	0.14	ND	ND	ND	
Fluoride (e, h, k)	ppm	2.0	1	0.1	Range	0.5-0.8	0.3	ND-0.1	ND-2.7	ND-0.76	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
					Average	0.7	0.3	ND	0.45	0.24	
Hexavalent Chromium	ppb	10	0.02	1	Range	ND	ND	-	ND-2.2	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	
Nitrate (as N) (e, k)	ppm	10	10	0.4	Range	0.4-1.1	ND	2.9-4.6	ND-21	ND-8.1	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
					Average	0.8	ND	4.1	10	3.6	
Perchlorate (e, k)	ppb	6	1	4	Range	ND	ND	ND	ND-11	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	ppb	50	30	5	Range	ND	ND	ND	ND-18	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	

Primary Standards – (continued)

SYNTHETIC ORGANIC CONTAMINANTS (INCLUDING PESTICIDES/PCBS)

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
Dibromochloropropane (DBCP)	ppt	200	1.7	10	Range	ND	ND	ND	ND-19	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	

VOLATILE ORGANIC CONTAMINANTS

Tetrachloroethylene (PCE)	ppb	5	0.06	0.5	Range	ND	ND	ND	ND-0.53	ND	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
					Average	ND	ND	ND	ND	ND	
Trichloroethylene (TCE)	ppb	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	0.6	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)	ppb	200	600	50	Range	93-150	ND	ND	ND	ND- 870	Erosion of natural deposits; residual from some surface water treatment processes
					Max RAA	122	ND	ND	ND	262	
Chloride	ppm	500	NA	NA	Range	78-89	97-98	36-42	ND-240	26-100	Runoff/leaching from natural deposits; seawater influence
					Average	84	98	39	132	66	
Corrosivity (as Aggressiveness Index)	Al	NA	NA	NA	Range	–	–	–	12-13	10-12	Elemental balance in water; affected by temperature, other factors
					Average	–	–	–	12	11.5	
Foaming Agents (MBAS)	ppb	500	NA	NA	Range	ND	ND	ND-80	ND-210	ND	Municipal and industrial waste discharges
					Average	ND	ND	ND	ND	ND	
Manganese (f, k)	ppb	50	NL= 500	20	Range	ND	ND	ND	ND- 620	ND	Leaching from natural deposits
					Average	ND	ND	ND	34	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
Odor Threshold (k)	ppb	3	NA	NA	Range	2	2	ND	ND-100	1-2	Naturally-occurring organic materials
					Average	2	2	ND	6.8	1.7	
Specific Conductance (k)	µS/cm	1,600	NA	NA	Range	475-570	1,000-1,050	298-584	3-1,950	179-1,090	Substances that form ions when in water; seawater influence
					Average	522	1,025	449	1,295	636	
Sulfate	ppm	500	NA	0.5	Range	29-72	250-251	42-47	ND-370	3-250	Runoff/leaching from natural deposits; industrial wastes
					Average	50	251	45	192	121	
Total Dissolved Solids (e, j, k, s)	ppm	1,000	NA	NA	Range	261-326	632-643	210-310	ND-1,200	110-690	Runoff/leaching from natural deposits
					Average	294	638	248	820	396	
Turbidity	ppb	5	NA	NA	Range	ND	0.8-1.7	ND-0.14	ND-1.2	ND-3.3	Soil runoff
					Average	ND	1.2	ND	0.1	1.1	

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)	ppm	NA	NL=1	0.1	Range	0.24	0.15	-	0.35-5.1	0.13-0.43	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	0.24	0.15	-	1.98	0.24	
Vanadium	ppb	NA	NL=50	3	Range	8.9	ND	4.8-6	ND-9.2	ND-3.1	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	8.9	ND	5.4	5.1	ND	

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

PARAMETER	UNITS	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE AVERAGE	DISTRIBUTION SYSTEM
1,4-Dioxane	ppb	NA	NA	0.07	Range	ND-0.14
					Average	ND
Chlorate	ppb	NA	NA	20	Range	75-360
					Average	152
Chromium	ppb	NA	NA	0.2	Range	ND-0.52
					Average	ND
Hexavalent Chromium (Dissolved)	ppb	NA	NA	0.03	Range	ND-0.43
					Average	0.134
Molybdenum	ppb	NA	NA	1	Range	ND-17
					Average	3.7
Strontium	ppb	NA	NA	0.3	Range	25-1100
					Average	589
Vanadium	ppb	NA	NA	0.2	Range	ND-6.4
					Average	2.4
Perfluorooctanesulfonic acid - PFOS	ppb	NA	NA	0.04	Range	ND-0.046
					Average	ND
Perfluorooctanoic acid - PFOA	ppb	NA	NA	0.02	Range	ND-0.042
					Average	ND
Perfluoroheptanoic acid - PFHpA	ppb	NA	NA	0.01	Range	ND-0.013
					Average	ND

Water-saving Tip: Use a broom to clean driveways, sidewalks and patios. Save: 8-18 gallons /minute.

Other Parameters

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
Alkalinity	ppm	NA	NA	NA	Range	64-78	120-131	59-95	ND-330	23-120
					Average	71	126	87	205	70
Bicarbonate	ppm	NA	NA	NA	Range	-	-	72-120	ND-400	28-140
					Average	-	-	106	251	81
Calcium	ppm	NA	NA	NA	Range	17-27	71-76	31-32	ND-180	3.6-83
					Average	22	74	32	111	39
Hardness (q)	ppm	NA	NA	NA	Range	87-112	281-300	120-130	ND-690	13-320
					Average	100	291	125	400	155
Magnesium	ppm	NA	NA	NA	Range	10	26	11-13	ND-71	0.83-28
					Average	10	26	12	30	14
pH	ppm	NA	NA	NA	Range	8.3-8.6	8.0-8.2	7.8-8.5	6.3-11	6.9-9.4
					Average	8.4	8.1	8.2	7.2	8.0
Potassium	ppm	NA	NA	NA	Range	2.7-2.8	4.9	1-1.2	ND-13	ND-5
					Average	2.8	4.9	1.1	3.9	2.9
Sodium (r)	ppm	NA	NA	NA	Range	62-75	99-102	37-40	ND-180	30-100
					Average	68	100	39	102	68

Water-saving Tip: *Wait until you have a full load of dishes or clothes before running the dishwasher or washing machine.*

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)	ppb	80	NA	1	Range	ND-44	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	32.8		
Haloacetic Acids (o)	ppb	60	NA	1	Range	ND-13	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	9.9		
Bromate (Mills - WR-24 Conn.) (l)	ppb	10	0.1	1	Range	ND-7	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	4.5		
Chloramines	ppm	[4 as Cl ₂]	[4 as Cl ₂]	NA	Range	0.3-2.7	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)	ppb	TT	NA	0.3	Range	2.3-2.7	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	2.4		

Water-saving Tip: *Plant drought-resistant trees and plants.*
Save: 30 - 60 gallons each time you water/1,000 sq. ft.

Key to Abbreviations

CFU/mL	Colony-Forming Units per Milliliter	MBAS	Methylene Blue Active Substances	NTU	Nephelometric Turbidity Units	ppt	Parts per trillion or nanograms per liter (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	ppb	Parts per billion or micrograms per liter (µg/L)	TOC	Total Organic Carbon
LRAA	Locational Running Annual Average	ND	Not Detected	ppm	Parts per million or milligrams per liter (mg/L)	µS/cm	microSiemen per centimeter; or micromho per centimeter (µmho/cm)

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 contaminant

Level 1 Assessment: A level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A level 2 assessment is a very detailed study of the water system to identify

potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

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: One unnecessary flush per day wastes up to 1,000 gallons of water over the course of a year.

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 2016, 1,561 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) 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. List 2 – Screening Survey consists of 7 contaminants for which new analytical methods were used. All analyses conducted by contract laboratories. Values listed in state DLR column are federal minimum reporting levels.
- (e) Fluoride, nitrate, perchlorate, and TDS 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.
- (f) The high concentration of Manganese is from two groundwater wells; the City utilizes over 20 wells. 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 2016, the secondary standard limit was exceeded at our Treatment Facility effluent with a Maximum Running Annual Average (Max RAA) of 262 ppb, exceedance shown in bold. No consumer action is necessary since secondary standards for aluminum are established only for aesthetic effects (water color). We are continually calibrating our aluminum



base coagulant to achieve the non-mandatory secondary standard limit of 200 ug/L. We expect to achieve this limit by the end of 2017. Our current Max RAA for 2017 is 163 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 treated or blended with water from other sources to provide customers with the highest quality drinking water.
- (l) Bromate reporting level is 3 ppb and 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) Reporting level is 0.5 ppb for each of the trihalomethanes (bromodichloromethane, bromoform, chloroform, and dibromochloromethane).
- (o) DLR is 1.0 ppb for each of the following: dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid; and 2.0 ppb for 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) 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.
- (t) 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.
- (u) Results are from 2008-2016.

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 155 ppm or 9.1 grains per gallon, 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.

I went over my budget – now what?

Give our Customer Care Team a call at 951-736-2321. We can verify that your budget factors are correct and provide some common sources for you to check. If that doesn't resolve the issue, we will help you work with our Water Resources Team to figure out what is the cause. Everyone should be within their water budget; going over is usually a sign that there may be a leak or overwatering issue. The great news is once you find and fix the issue, we offer a Variance Program to provide a credit for charges on your over-budget bill. Call us at 951-736-2321 – we are here to help!

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, or 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.CoronaDWP.org/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.CoronaDWP.org/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 billing unit.
- 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 940
Corona, CA 92878



PRESORTED
STANDARD
U.S. POSTAGE
PAID
PERMIT #146
CORONA, CA

Postal Customer