

# Consumer Confidence Report

2016  
For the year 2015



**CITY of CORONA**  
Department of Water and Power

*"Protecting Public Health"*

# Message from the General Manager

In recent months, lead and copper in drinking water has been a topic of general interest. Human exposure to elevated concentrations of these chemicals from any source can cause serious health problems especially in infants, young children, and pregnant women. In 1991, the United States Environmental Protection Agency (USEPA) published the Lead and Copper Rule (LCR) to control lead and copper in drinking water. The rule requires utilities to monitor drinking water at customer taps. If the lead concentration exceeds 15 parts per billion (ppb) or the copper concentration exceeds 1.3 parts per million (ppm) in more than 10% of customer taps sampled, the system must undertake a number of additional actions to control corrosion. If the action level for lead is exceeded, the system must also inform the public about steps they should take to protect their health and reduce their exposure to lead. For additional information regarding lead and copper please visit the City of Corona website at [www.CoronaDWP.org](http://www.CoronaDWP.org).

Another topic of interest is the emergence of unregulated contaminants. An “emerging contaminant” is defined by the USEPA as a chemical or material that is characterized by a perceived, potential, or real threat to human health or the environment or by a lack of published health standards. In January 2009, the EPA’s Office of Water established a provisional health advisory of 0.2 ppb for perfluorooctane sulfonate (PFOS) and 0.4 ppb for perfluorooctanoic acid (PFOA). In May 2016 the health advisory level was lowered to 0.07 ppb for the combined compounds. The EPA is working with the manufacturers to phase out their use. Their

use is allowed for the continuation of a few limited, highly technical applications where no alternatives are available. Since the monitoring was mandated, the City of Corona Department of Water and Power (DWP) has not exceeded the provisional health advisory for any of these unregulated contaminants. At this point, DWP is not supplying any water with PFOS or PFOA detections into the distribution system without treatment to a level of non-detection.

I am proud to tell you that at DWP there is no higher priority than protecting the public health and ensuring the safety of the drinking water we deliver to your home. This annual report lists the constituents and concentrations detected in the water supply, their likely sources and the maximum contaminant level (MCL) that the USEPA considers safe. Information contained in this report includes both required statistics and other information on water quality to provide you with the tools you need to make informed choices about the water you drink. This report not only reflects our ability to meet and exceed health standards, including lead, copper, PFOS and PFOA, it also demonstrates our commitment to you and our community that we will always provide you with the best product and service that we can offer.

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

Jonathan Daly  
General Manager  
951-736-2477  
[www.CoronaDWP.org](http://www.CoronaDWP.org)

## Exceeding Standards

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 is proud to report that no drinking water standards were exceeded in our system.

This report is a snapshot of the water quality in 2015. Included are details about where your water comes from, what it contains, and how it compares to the State's standards.

## Corona's Water Sources

In 2015, Corona residents and businesses used approximately 11.6 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 64.3% of our water supply, with another

27.6% coming through Lake Mathews from the Colorado River, 3.7% is from the State Water Project's California Aqueduct and the final 4.4% is purchased from Western Municipal Water District's Arlington Desalter treatment facility.

## Water Treatment Processes

The water from the Colorado River requires treatment to remove and inactivate harmful organisms. This process is accomplished using 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 and disinfection. Through independent laboratory testing, 100% of the samples taken in 2015 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 disinfection and removal of nitrate and Total Dissolved Solids (TDS).

The Department of Water and Power disinfects the distribution system with monochloramines (a ratio of chlorine and ammonia). This allows us to achieve long-lasting chlorine residual and reduce the production of disinfection byproducts. Disinfection byproducts are formed when disinfectants (i.e. chlorine and monochloramines) react with naturally occurring organic matter in water.



*Sierra Del Oro Water Storage Tank*

## Blending

The Department of Water and Power has five active blending facilities that blend water with low nitrate, fluoride, perchlorate and 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. The Department of Water and Power 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 the Department of Water and Power treats and blends water from several sources to meet water quality standards. 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](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml).



## Governor Brown's Executive Order B-29-15

After viewing the non-existent snowpack in the Sierra Nevada Mountains in 2015, Governor Brown issued Executive Order B-29-15. This executive order mandated a net 25% statewide reduction in potable, or drinking, water use from 2013 water usage.

Governor Brown's executive order contained many prohibitions on water use. Watering turf medians with potable water is restricted. All new homes must have drip or subterranean irrigation – no overhead spray heads are allowed. Watering within 48 hours of measurable rainfall is prohibited. Agencies or individuals that do not do their part to reduce water use will be fined or otherwise penalized.

The Governor called on the State Water Resources Control Board, or SWRCB, to implement and oversee the water reduction mandates. The SWRCB approved updated regulations in June 2015 that requires Corona to continue its efforts in reducing water usage compared to 2013 water usage. These updated regulations are in effect through January 2017. Since most indoor water use is essential for health and safety, **the Governor's message is clear: reduce outdoor watering.**

## 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 saved nearly 2,243.3 million gallons from May 2015 through April 2016, a

reduction of 20 percent. We ask that everyone be 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.
- Watering during and within 48 hours after rainfall measuring ½" or more is prohibited.
- The operation of any ornamental fountain or similar structure is prohibited except for short periods of time to prevent damage, unless the fountain is recirculating.
  - 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

Help 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 using 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 a 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.

DWP also offers 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 email [StopTheDrop@discovercorona.com](mailto:StopTheDrop@discovercorona.com).

To help you improve water efficiency outdoors, DWP offers rebates on a variety of technologies. 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 is 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](http://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 down. Available rebated technologies and fixtures include:

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

For more information on these and other water efficiency rebates available to Corona businesses contact the Water Resources Team at (951) 736-2234 or email [StopTheDrop@discovercorona.com](mailto:StopTheDrop@discovercorona.com).

## We Are In This Together, and We Are Here To Help!

This summer is sure to be challenging. Restrictions of any kind cause tension and the summer heat will only add to the situation. We want to remind the community that DWP is here to help everyone get through these issues. Our main goal is to provide assistance to residents and businesses to help them meet these water mandates. We are the water experts, so let us help you. We offer a variety of

programs, including rebates for high-efficiency appliances, free sprinkler nozzles and devices, landscape check-ups and more. Just give our Water Resources Team a call at 951-736-2234 to find out more on how you can help do your part to use water efficiently.

## Water: An Undervalued Resource



Earth is called the blue planet because most 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 real value of water is not represented in the price that we pay for it. Water is a precious resource; we all need water to live. The current drought situation in California has proven that water availability is not guaranteed. A 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 quarterly facility tours. Visit our website at <http://www.discovercoronadwp.com/education/facility-tour.shtml> to be put on an interest list for future tours, or contact our Water Resources Team at 951-736-2234 or by e-mail at [StopTheDrop@discovercorona.com](mailto:StopTheDrop@discovercorona.com) to sign up for an upcoming tour. You must be at least 18 years old and a customer of the Department of Water and Power to attend.



Don't have the spare time to come on a tour? The Department of Water and Power 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, the Department of Water and Power 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 reclaimed water system. The reclaimed system is completely separate from the drinking water system; pipes, sprinkler caps and signage is colored purple to easily identify it as part of the reclaimed water system. Reclaimed water is used primarily on landscaping at parks, schools and parkway areas, and even in a commercial building. By re-using water that would normally have been wasted, we save potable water for our homes and businesses.

The City of Corona's infrastructure for the reclaimed water system consists of approximately 52 miles of pipeline, three storage tanks, and four pump stations. The reclaimed water system produced 2.12 billion gallons of reclaimed water in 2015. We currently have 337 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 Department of Water and Power and the Police Department are working together to protect our environment from the harmful effects of improperly discarded, unused medications. For your convenience, a pharmaceutical disposal bin has been placed at the Corona Police Department lobby located at 730 Public Safety Way. 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 – 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 U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board 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. More information about contaminants and potential health effects can be obtained by calling the **USEPA's Safe Drinking Water Hotline (1-800-426-4791)**.

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

## Nitrate

Nitrate in drinking water at levels above 45 ppm is a health risk 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 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 State Water Resources Control Board 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 [ $<1$ /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 <sup>th</sup> Percentile	No. Sites Sampled	No. Sites Exceeding AL
<b>Lead</b>	ppb	AL=15	0.2	5	2014	2	50	0
<b>Copper</b>	ppm	AL=1.3	0.3	0.05	2014	0.11	50	0

<b>AL</b>	Action Level	<b>ppb</b>	Parts per billion or micrograms per liter ( $\mu\text{g/L}$ )
<b>DLR</b>	Detection Limits for purposes of Reporting	<b>ppm</b>	Parts per million or milligrams per liter (mg/L)
<b>MCL</b>	Maximum Contaminant Level		
<b>PHG</b>	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

Parameter	Units	State MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Water Source	Major Sources in Drinking Water
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### CLARITY

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	0.09		
Combined Filter Effluent Turbidity	%	95(a)	NA	-	% < 0.3	100	City of Corona, Lester & Sierra Del Oro Water Treatment Facilities	Soil runoff
	NTU	TT 0.3			Highest	0.08		
Parameter	Units	State MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Regulated in Distribution System	Major Sources in Drinking Water	

### MICROBIOLOGICAL CONTAMINANTS

Total Coliform Bacteria (Total Coliform Rule)	%	5.0 (b)	(0)	-	-	Highest % of positive samples collected in any one month = 0%				Naturally present in the environment	
Fecal Coliform and E. Coli (Total Coliform Rule)	(c)	(c)	(0)	-	-	Total number of positive samples collected in 2015 = 0				Human and animal fecal waste	
Heterotrophic Plate Count (HPC)	CFU/mL	TT	NA	NA	Range	Distribution System Wide: ND-5,700				Naturally present in the environment	
					Average	Distribution System Wide: 20					
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

### RADIOACTIVE CONTAMINANTS

Gross Alpha Particle Activity	pCi/L	15	(0)	3	Range	ND-4	ND-4	1.67	ND-8.8	-	Erosion of natural deposits
					Average	ND	3	1.67	2.13	-	
Uranium	pCi/L	20	0.43	1	Range	ND-4	2-3	3.94	ND-17	-	Erosion of natural deposits
					Average	2	3	3.94	5.0	-	

## Primary Standards –(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
<b>INORGANIC CONTAMINANTS</b>											
<b>Arsenic</b>	ppb	10	0.004	2	Range	2.2	2.6	ND	ND-3.1	ND-2.3	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
					Average	2.2	2.6	ND	ND	ND	
<b>Barium</b>	ppm	1	2	0.1	Range	ND	0.124	ND	ND-0.12	ND-0.12	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
					Average	ND	0.124	ND	ND	ND	
<b>Fluoride (e, h)</b>	ppm	2.0	1	0.1	Range	0.6-0.9	0.3	ND-0.1	<b>ND-2.7</b>	ND-0.80	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
					Average	0.7	0.3	ND	0.4	0.22	
<b>Hexavalent Chromium</b>	ppb	10	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	
<b>Nitrate (as N) (e, k)</b>	ppm	10	10	0.4	Range	ND-0.9	ND	3.3-4.4	<b>ND-21.3</b>	ND-7.3	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
					Average	0.5	ND	4	<b>10.3</b>	3.8	
<b>Perchlorate (e, k)</b>	ppb	6	1	4	Range	ND	ND	ND	<b>ND-12</b>	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	
<b>Selenium</b>	ppb	50	30	5	Range	ND	ND	ND	ND-21	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)

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
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### SYNTHETIC ORGANIC CONTAMINANTS including Pesticides/PCBs

Dibromochloropropane (DBCP)	ppt	200	1.7	10	Range	ND	ND	ND	ND-31	ND	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soy-beans, 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-0.69	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-1.7	ND	Discharge from metal degreasing sites and other factories
					Average	ND	ND	ND	0.5	ND	

## Secondary Standards – Aesthetic Standards

Aluminum (i)	ppb	200	600	50	Range	64-180	79	ND	ND	ND- <b>450</b>	Erosion of natural deposits; residual from some surface water treatment processes
					Max RAA	115	79	ND	ND	<b>150</b>	
Chloride	ppm	500	NA	NA	Range	76-98	91-97	33-42	ND-220	22-100	Runoff/leaching from natural deposits; seawater influence
					Average	86	94	37	132	63	
Corrosivity (as Aggressiveness Index)	Al	NA	NA	NA	Range	11.9-12.1	-	-	6.2-13	10-13	Elemental balance in water; affected by temperature, other factors
					Average	12	-	-	12	11	
Foaming Agents (MBAS)	ppb	500	NA	NA	Range	ND	60	ND-120	ND-80	ND	Municipal and industrial waste discharges
					Average	ND	60	ND	20	ND	
Manganese (f, k)	ppb	50	NL=500	20	Range	ND	ND	ND	ND- <b>660</b>	ND	Leaching from natural deposits
					Average	ND	ND	ND	<b>50</b>	ND	
Odor Threshold (k)	ppb	3	NA	NA	Range	2	<b>7</b>	ND	ND- <b>17</b>	1-2	Naturally-occurring organic materials
					Average	2	<b>7</b>	ND	2	1.3	

## Secondary Standards – Aesthetic Standards (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
Specific Conductance (k)	µS/cm	1,600	NA	NA	Range	580-666	1,010-1,030	358-525	2- <b>1,800</b>	159-1,090	Substances that form ions when in water; seawater influence
					Average	623	1,020	442	1,216	640	
Sulfate	ppm	500	NA	0.5	Range	81-84	238-250	34-40	ND-390	3.3-250	Runoff/leaching from natural deposits; industrial wastes
					Average	83	244	42	195	114	
Total Dissolved Solids (e, j, k)	ppm	1,000	NA	NA	Range	335-364	642-650	200-380	ND- <b>1,200</b>	94-710	Runoff/leaching from natural deposits
					Average	350	646	267	772	381	
Turbidity	Units	5	NA	NA	Range	ND	0.87-0.99	ND	ND-0.57	0.05-0.16	Soil runoff
					Average	ND	0.93	ND	0.14	0.1	

## Unregulated Contaminants With No MCLS (g)

### Health Effects

Boron (p)	ppm	NA	NL=1	0.1	Range	0.21	0.13	–	0.37-5.2	ND-0.4	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	0.21	0.13	–	1.5	0.3	
Trichloropropane (1,2,3-TCP)	ppt	NA	NL=5	5	Range	–	–	–	ND-660	–	Some people who use water containing 1,2,3-trichloropropane in excess of the notification level over many years may have an increased risk of getting cancer, based on studies in laboratory animals.
					Average	–	–	–	17	–	
Vanadium	ppb	NA	NL=50	3	Range	9	3	5.1-5.5	ND-11	ND	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	9	3	5.3	6	ND	

Parameter	Units	State MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Distribution System
<b>FEDERAL UNREGULATED CONTAMINANTS MONITORING RULE (UCMR3) (d)</b>						
<b>List 1 - Assessment Monitoring</b>						
<b>1,4-Dioxane</b>	ppb	NA	NA	0.07	Range	ND-0.14
					Average	ND
<b>Chlorate</b>	ppb	NA	NA	20	Range	75-360
					Average	152
<b>Chromium</b>	ppb	NA	NA	0.2	Range	ND-0.52
					Average	ND
<b>Hexavalent Chromium (Dissolved)</b>	ppb	NA	NA	0.03	Range	ND-0.43
					Average	0.134
<b>Molybdenum</b>	ppb	NA	NA	1	Range	ND-17
					Average	3.7
<b>Strontium</b>	ppb	NA	NA	0.3	Range	25-1100
					Average	589
<b>Vanadium</b>	ppb	NA	NA	0.2	Range	ND-6.4
					Average	2.4
<b>Perfluorooctanesulfonic acid - PFOS</b>	ppb	NA	NA	0.04	Range	ND-0.046
					Average	ND
<b>Perfluorooctanoic acid - PFOA</b>	ppb	NA	NA	0.02	Range	ND-0.042
					Average	ND
<b>Perfluoroheptanoic acid - PFHpA</b>	ppb	NA	NA	0.01	Range	ND-0.013
					Average	ND

**Water-saving Tip:** *Plug the sink instead of running the water to rinse your razor. Save up to 300 gallons a month.*

## 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	ppm	NA	NA	NA	Range	77-84	126-131	67-96	ND-310	22-130
					Average	81	129	84	202	71
Bicarbonate	ppm	NA	NA	NA	Range	-	-	82-120	ND-380	25-150
					Average	-	-	103	246	86
Calcium	ppm	NA	NA	NA	Range	27-30	76-79	100-130	ND-160	3.6-89
					Average	29	78	118	108	41
Hardness (q)	ppm	NA	NA	NA	Range	102-124	294-298	9.7-12	ND-580	10-340
					Average	113	296	11.14	397	154
Magnesium	ppm	NA	NA	NA	Range	6.0-12	25-26	7.93-8.5	ND-48	0.87-30
					Average	9	26	8.24	31	13.8
pH	pH Units	NA	NA	NA	Range	8.2-8.3	8.2-8.3	7.93-8.5	6.3-8	6.9-9.5
					Average	8.2	8.2	8.24	7.2	8.1
Potassium	ppm	NA	NA	NA	Range	2.2-3.2	4.7-5.0	ND-1.2	ND-13	ND-5
					Average	2.7	4.9	ND	4.2	2.7
Sodium (r)	ppm	NA	NA	NA	Range	77-82	89-105	34-40	ND-160	26-98
					Average	80	97	37	99	62

**Water-saving Tip:** *If you don't have a low flow toilet, you can still reduce toilet water use by up to 20% by placing a half-gallon jug filled with water or sand in your toilet tank.*

## 2016 Annual Water Quality Report for 2015

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
<b>DISINFECTION BYPRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BYPRODUCT PRECURSORS FEDERAL RULE (m)</b>								
<b>Total Trihalomethanes (TTHMs) (n)</b>	ppb	80	NA	1	Range	ND-34	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	30.3		
<b>Haloacetic Acids (o)</b>	ppb	60	NA	1	Range	ND-10	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	9.2		
<b>Bromate (Mills - WR-24 Conn.) (l)</b>	ppb	10	0.1	1	Range	2.2-12	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		
<b>Chloramines</b>	ppm	[4]	[4]	NA	Range	0.21-3.66	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		
<b>Control of DBP precursors (TOC)</b>	ppm	TT	NA	0.3	Range	2.3-2.6	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		

### 1 PPB Analogies:

*= 1 inch in 15,782 miles*

*= 1 second in nearly 32 years*

*= 1 pound in 120 million gallons of water*

## Key to Abbreviations

<b>CFU/mL</b>	Colony-Forming Units per Milliliter	<b>MBAS</b>	Methylene Blue Active Substances	<b>NTU</b>	Nephelometric Turbidity Units	<b>ppt</b>	Parts per trillion or nanograms per liter (ng/L)
<b>DBP</b>	Disinfection Byproducts	<b>N</b>	Nitrogen	<b>pCi/L</b>	PicoCuries per liter	<b>RAA</b>	Running Annual Average
<b>DLR</b>	Detection Limits for purposes of Reporting	<b>NA</b>	Not Applicable	<b>ppb</b>	Parts per billion or micrograms per liter (µg/L)	<b>TOC</b>	Total Organic Carbon
<b>LRAA</b>	Locational Running Annual Average	<b>ND</b>	Not Detected	<b>ppm</b>	Parts per million or milligrams per liter (mg/L)	<b>µS/cm</b>	microSiemen per centimeter; or micromho per centimeter (µmho/cm)
		<b>NL</b>	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:** *Save up to 150 gallons a month by turning off the water while washing your hair.*

## 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 2015, 1,560 samples were analyzed and zero were positive for total coliforms. 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 UCMR3 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 2015 the secondary standard limit was exceeded at our Treatment Facility effluent with a Maximum Running Annual Average (Max RAA) of 303 ug/L. 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 2016. Our current Max RAA for 2016 is 180 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 high levels exceeding the MCL at the high-lighted source. Please note that this water is 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.

## 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 154 ppm or 9.0 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. 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 – 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](http://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](http://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 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**

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