

Consumer Confidence Report

2014

For the year 2013



CITY of CORONA
Department of Water and Power

"Protecting Public Health"

Message from the General Manager

In recent months, Californians have been inundated with news about the State's drought and growing concerns over California's long-term water supplies. The fact that water is so vital to everything we do in our daily lives – from nourishing our bodies, to bathing and sanitation needs, even to supplying power – underscores the gravity of the situation. An issue so large will require many strategies to resolve, but it also allows us the opportunity to become part of the solution. Governor Brown has asked all Californians to help out by voluntarily reducing their water use by 20%. We ask that you join in this effort, and are here to offer our assistance if you need help.



Here at the Department of Water and Power our duty is to "Protect Public Health." This means that we not only provide our customers with water that meets or exceeds the standards set by State and Federal Law, but we also look beyond the needs of today and ensure that our community has a reliable, sustainable supply of water, and dependable infrastructure to deliver it. We understand that water is the lifeblood of a prosperous economy. That is why we have been working with our neighbors on interconnections, planning and building new wells and treatment facilities, increasing reclaimed water capacity and use, securing stormwater rights, proactively maintaining our facilities, and working with the community to increase awareness about the value of tap water and necessity of using this precious resource efficiently.

I am proud to provide this annual report to you. It lists the types and amounts of key elements in your water supply, their likely sources and the maximum contaminant level (MCL) that the United States Environmental Protection Agency considers safe. We utilize a multi-barrier treatment process to assure safe drinking water is delivered to your home or place of business.

Information contained in this annual report includes required statistics and 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 health standards, it also demonstrates our commitment to you that we will always provide you with the best that we can offer.

The Department of Water and Power is proud of our product and facilities, and invites you to attend a tour of our facilities. Come and see first-hand where your water comes from, how it gets to your tap, and what happens when waste water leaves your home or business. It's a remarkable process, one that we know will leave a lasting impression on you.

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

Jonathan Daly
General Manager
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● 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 safeguards its water supplies and we are proud to report that our system has not violated any primary drinking water standard.

This report is a snapshot of the water quality in 2013. Included are details about where your water comes from, what it contains, and how it compares to the State's standard.

● Corona's Water Sources

In 2013, Corona residents and businesses used approximately 12.3 billion gallons of drinking water. Corona's water supply comes from three main sources: groundwater, the Colorado River and the State Water Project in Northern California. Groundwater wells owned and operated by the City of Corona provided 58% of our water supply, with another 33% coming through Lake Mathews from the Colorado River, 7% is from the State Water Project's California Aqueduct and the final 2% 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: the Sierra Del Oro and Lester Water Treatment Facilities. 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 2013 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 incorporates nitrate and Total Dissolved Solids (TDS) removal, and also provides disinfection.

The Department of Water and Power disinfects the distribution system with monochloramines (a ratio of chlorine and ammonia). This allows us to achieve a 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.



Lester Water Treatment Facility

● Blending

The Department of Water and Power has five active blending facilities that blend water with low nitrate, fluoride, perchlorate and Total Dissolved Solids 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 gross alpha, 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: www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx.

● California's Drought

On January 17, 2014, Governor Brown declared a State of Emergency due to drought conditions, and called on state officials to take action to prepare for what has been the driest year in the state's recorded history. The Governor's full declaration can be found online at <http://gov.ca.gov/news.php?id=18368>.

State officials at the California Department of Water Resources have announced that they will only be delivering 5% of the requested water allocations so far this year from the State Water Project. A snow survey conducted on May 1, 2014 in the Sierra Nevadas revealed that the snowpack was measured at only 18% of average. Reservoir levels throughout the state remain well below normal, with Lake Shasta at only 56% of normal as of May 2014.

Governor Brown is calling for everyone in California to do their share by reducing their water use by 20%. What does a 20% reduction look like? The average Californian uses 196 gallons of water per day; here in Corona our water use (as measured in our 2009 Urban Water Management Plan) was 228 gallons per person per day.



To find out how you can help save California's water resources, visit www.CoronaDWP.org/20x2020



● Water: An Undervalued Resource

Earth is called the blue planet because most of its surface is covered with water. But did you know that only about 3% of the earth's water is fresh water that is used for drinking? And two-thirds of that water is stored in ice caps and glaciers – it's not even circulating in the water cycle. 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 long distances and treated through an elaborate process 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. And undervalued resources are all too often squandered. Water is a precious resource; we all need it to live. Where there is water, there is life. The current drought situation in California has proven that water availability is not guaranteed. Water supply can be highly variable, with many factors that affect it, including drought, legislative restrictions, water quality issues and environmental needs.

It's time to take our water future into our own hands, use our resources efficiently, and focus on sustainable water supplies. Our Water Resources Team is here to help you save water. We offer

landscape check-ups, rebates, landscape classes, and more. Please contact the Water Resources Team at 951-736-2234 or by email at StopTheDrop@discovercorona.com. Make every drop count – use water efficiently.

● Cash For Grass

Did you know that Corona receives only about 12 inches of rain in an average year? For comparison, Las Vegas receives about 4 inches of rain per year – we're not that far off. Grass needs around 52 inches of water a year to live in our climate. That means that we are applying 40 inches of water, or more, to help grass survive in our semi-arid landscape. Removing some grass can dramatically reduce your water use and also beautify your landscape.

Think about removing small areas of grass if you don't want to go all native – make an existing planter larger, or remove the grass in your parkway. The Water Resources Team makes this easy for you! The Cash for Grass Rebate Program encourages Corona residents to make the switch from grass to Inland Empire Garden Friendly landscaping. The high water use and frequent maintenance of grass make it an expensive and time-consuming option. With California in one of the worst droughts that it has seen, now is the time for Corona residents to reduce their water usage and provide examples of water-wise planting alternatives! Front yard, parkway and backyard



projects are eligible to receive a rebate of \$2 per square foot of grass replaced with no maximum amount. Visit www.CoronaDWP.org/res-rebates for the full Cash for Grass rebate application and guidelines.

The Department of Water and Power has additional programs to help you transform your landscape, from landscape classes to a website packed with information on low-water using plants and drip irrigation. Check out our website at www.CoronaDWP.org for more details.

● Reducing Your Water Use – We're Here to Help!

Do you want to use less water but aren't sure how to go about it? Not sure if you are using water efficiently? We're the experts on water, so let us help you. We offer a variety of programs, including:

- Rebates for high-efficient appliances, such as toilets, clothes washers and weather-based irrigation controllers.
- Free toilet dye tabs to see if your toilet is wasting water.
- Free low-water use devices, such as low-flow shower heads, faucet aerators, hose nozzles and sprinklers through www.FreeSprinklerNozzles.com.
- Free landscape check-ups, where our knowledgeable technicians can review your irrigation schedule and check your landscaping to tune it up for maximum efficiency.
- Landscape classes to help you learn about drip irrigation and water efficient plants.



Did you know that about 60 – 70% of your annual water use is used outside your home?

There's a huge opportunity for savings outdoors! Here are a few tips to become more water efficient outdoors:

- Watering your lawn one to two days a week instead of five days a week can save up to 840 gallons per week.
 - Inspecting your sprinkler system for leaks, overspray, clogged, broken or missing heads can save up to 500 gallons per month. Make sure to repair when necessary and contact us for a variance if you went over budget!
 - Using a broom instead of a hose to clean driveways and sidewalks can save up to 150 gallons each time.
 - Installing a smart sprinkler controller that adjusts watering based on weather can save up to 40 gallons per day. Remember, the City of Corona offers a \$200 rebate for installing an approved controller!
 - Make the switch from grass to Inland Empire Garden Friendly landscaping. Switching your garden from grass to drought-tolerant plants can reduce your household water use by up to 30%.
- Reducing your water use inside your home is as easy as turning off your faucet! Here are a few tips to become more water efficient indoors:
- Washing only full loads of laundry and dishes can save up to 50 gallons per week.



- Fixing household leaks promptly can save up to 20 gallons per day.
- Spending only five minutes in the shower can save up to eight gallons each time. Remember, the City of Corona offers five minute shower timers and low-flow showerheads that we can deliver to your door for **FREE!** Contact the Water Resources Team for more information!
- Turning off the water while you brush your teeth can save up to 2.5 gallons per minute.
- Buying water-saving devices like high-efficiency toilets and clothes washers can reduce your water use. The City of Corona offers rebates for the installation of these devices!

Please call our Water Resources Team at (951) 736-2234 or e-mail us at StopTheDrop@discovercorona.com for more information. Let us help you get on the path to efficient water use and a lower water bill.

● Tour Our Facilities

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



See how your water is treated and delivered by attending a quarterly facility tour.

curious, we encourage you to attend one of our quarterly facility tours. Visit our website at www.CoronaDWP.org 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 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.

● 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. California and our region face many challenges that affect our drinking water supply, such as periodic drought, a growing population and environmental constraints. 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, utilizing purple pipes, sprinkler caps and signage to denote its location. Reclaimed water is used primarily on landscaping at parks, schools and

parkway areas, and even in a commercial building for trap priming. 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 44 miles of pipeline, three storage tanks, and four pump stations. The reclaimed water system produced 1.83 billion gallons of reclaimed water in 2013. We currently have 240 connections, and are continually adding new sites.

● Variance Program

The Department of Water and Power has a variance program to request changes to your water budget. You can use the variance program if the number of people in the residence is greater than the default budget, or a measurement shows the irrigated area estimate was not sufficient. A variance may also be granted if you find and fix a leak on your property. Forms are available online at www.CoronaDWP.org, at City Hall, or can be mailed to you by calling our Customer Care Team at 951-736-2321 or by email at CustomerCare@discovercorona.com.

● Did You know?

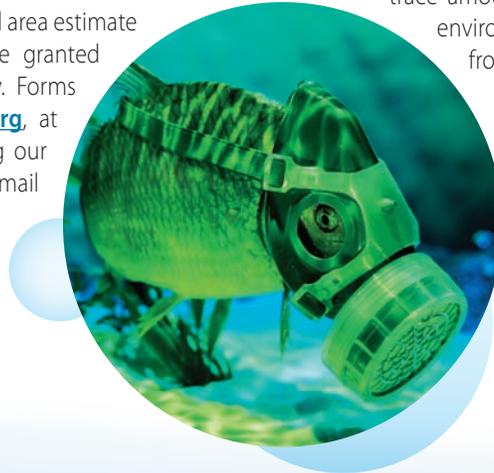
- There are 748 gallons of water in one unit of water. Multiply the number of units that you used by 748 to see how many gallons of water you used in a month.
- One acre-foot of water equals 325,829 gallons or 435.6 billing units.
- One acre-foot of water can supply two typical families with water for a whole year.
- A leaky toilet can waste between 30 to 500 gallons of water per day.

● 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, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals 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, which 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 California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH 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 mg/L is a health risk for infants 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 mg/L 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.



100% of the samples taken in 2013 were free from harmful organisms.

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/safewater/lead>.

Chromium-6

On July 27, 2011, the Office of Environmental Health Hazard Assessment (OEHHA) established a *public health goal (PHG) for chromium-6 (hexavalent chromium) of 0.02 parts per billion (ppb)*. The PHG will contribute to CDPH's development of a primary drinking water standard (maximum contaminant level, MCL) that is specific for chromium-6. Please refer to <http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Chromium6.aspx> for more information.

Source Water Assessment

In accordance with the Federal Safe Drinking Water Act (SDWA), the State Department of Public Health 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, National Pollutant Discharge Elimination System (NPDES) and Waste Discharge Requirements (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 www.discovercorona.com.

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 which primarily enters drinking water through plumbing materials. 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	2011	<5	50	2
Copper	ppm	AL=1.3	0.3	0.05	2011	0.1	50	0

AL	Action Level	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		

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	NTU	TT 0.3	NA	–	Highest	Metropolitan Water District Henry J. Mills Water Treatment Plant	0.12	Soil runoff
	%	95(a)			% < 0.3		100%	
Combined Filter Effluent Turbidity	NTU	TT 0.3	NA	–	Highest	City of Corona, Lester & Sierra Del Oro Water Treatment Facilities	0.15	Soil runoff
	%	95(a)			% < 0.3		100%	

Parameter	Units	State MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Regulated in Distribution System	Major Sources in Drinking Water
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MICROBIOLOGICAL CONTAMINANTS

Total Coliform Bacteria (Total Coliform Rule)	%	5.0 ^(b)	(0)	–	–	Highest % of positive samples collected in any one month = 3%	Naturally present in the environment
Fecal Coliform and E. Coli (Total Coliform Rule)	(c)	(c)	(0)	–	–	Total number of positive samples collected in 2013 = 0	Human and animal fecal waste
Heterotrophic Plate Count (HPC)	CFU/mL	TT	NA	NA	Range	Distribution System Wide: ND-5,700 Distribution System Wide:10	Naturally present in the environment
					Average		

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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RADIOACTIVE CONTAMINANTS (j)

Gross Alpha Particle Activity ^(k)	pCi/L	15	(0)	3	Range	ND	3-5	–	ND-19.6	–	Erosion of natural deposits
					Average	ND	4	3.37	7.6	–	
Uranium	pCi/L	20	0.43	1	Range	ND-1	2-3	–	ND-18.6	–	Erosion of natural deposits
					Average	1	3	3.04	7.21	–	
Combined Radium - 226+228	pCi/L	5	(0)	NA	Range	ND	ND	–	ND	–	Erosion of natural deposits
					Average	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
Arsenic	ppb	10	0.004	2	Range	ND	2.2	ND	ND-3.8	ND-2.5	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
					Average	ND	2.2	ND	ND	ND	
Barium	ppm	1	2	0.1	Range	ND	110	ND	ND-0.13	ND-0.1	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
					Average	ND	110	ND	ND	ND	
Fluoride ^(e, h)	ppm	2	1	0.1	Range	0.2-1.0	0.3	0.1-0.2	ND-4.4	ND-0.5	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
					Average	0.8	0.3	0.1	0.6	0.3	
Nickel	ppb	100	12	10	Range	ND	ND	ND	ND-12	ND	Erosion of natural deposits; discharge from metal factories
					Average	ND	ND	ND	ND	ND	
Nitrate (as N03) ^(d,e,k)	ppm	45	45	2	Range	4.95	ND	18-27	ND-99	ND-30	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
					Average	4.95	ND	22	37	8	
Perchlorate ^(e, i, k)	ppb	6	6	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-9.1	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 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-0.97	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-1.8	ND	Discharge from metal degreasing sites and other factories
					Average	ND	ND	ND	0.6	ND	

SECONDARY STANDARDS—Aesthetic Standards

Aluminum ^(a)	ppb	200	600	50	Range	ND-360	ND	ND	ND	ND-420	Erosion of natural deposits; residual from some surface water treatment processes
					Max RAA	130	ND	ND	ND	286	
Chloride	ppm	500	NA	NA	Range	76-100	81-83	41-44	ND-240	76-83	Runoff/leaching from natural deposits; seawater influence
					Average	90	82	42	132	80	
Corrosivity (as Aggressiveness Index)	Al	NA	NA	NA	Range	11.9-12.1	–	–	5.4-13	–	Elemental balance in water; affected by temperature, other factors
					Average	12	–	–	11.7	–	
Foaming Agents (MBAS)	ppb	500	NA	NA	Range	ND	ND	ND	ND-56	ND	Municipal and industrial waste discharges
					Average	ND	ND	ND	4.7	ND	
Iron	ppb	300	NA	100	Range	ND	ND	ND	ND-110	ND	Leaching from natural deposits; industrial wastes
					Average	ND	ND	ND	ND	ND	
Manganese ^(f, k)	ppb	50	NL=500	20	Range	ND	ND	ND	ND-990	ND	Leaching from natural deposits
					Average	ND	ND	ND	48	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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SECONDARY STANDARDS–Aesthetic Standards

Odor Threshold	ppb	3	NA	NA	Range	3	10	ND	ND-3	ND	Naturally-occurring organic materials
					Average	3	10	ND	0.6	ND	
Specific Conductance ^(k)	µS/cm	1,600	NA	NA	Range	570-580	920-960	430-480	4-2,100	890-1,000	Substances that form ions when in water; seawater influence
					Average	580	940	451	1,229	945	
Sulfate	ppm	500	NA	0.5	Range	45-63	220	44-51	ND-360	160-220	Runoff/leaching from natural deposits; industrial wastes
					Average	54	220	48	186	190	
Total Dissolved Solids ^(e, k, t)	ppm	1,000	NA	NA	Range	310-320	580-590	190-340	ND-1,400	430-600	Runoff/leaching from natural deposits
					Average	310	590	258	805	532	
Turbidity	Units	5	NA	NA	Range	ND	0.4-1.1	ND	ND-0.4	ND	Soil runoff
					Average	ND	1.1	ND	0.1	ND	

UNREGULATED CHEMICALS REQUIRING MONITORING (STATE AND FEDERAL) ^(g)

Health Effects											
Boron ^(p)	ppm	NA	NL=1	0.1	Range	0.22	0.12	–	0.33-5.6	–	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	0.22	0.12	–	1.4	–	
Chromium VI ^(q)	ppb	NA	0.02	1	Range	ND	ND	–	ND-1.1	–	NA
					Average	ND	ND	–	0.46	–	
Vanadium	ppb	NA	NL=50	3	Range	4.4	ND	4.6-5.9	ND-10	–	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	4.4	ND	5.3	4.4	–	

Parameter	Units	State MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Distribution System
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FEDERAL UNREGULATED CONTAMINANTS MONITORING RULE (UCMR3) (v)

List 1 – Assessment Monitoring

1,4-Dioxane	ppb	NA	NA	0.07	Range	ND-0.134
					Average	0.045
Chlorate	ppb	NA	NA	20	Range	32-220
					Average	160
Chromium	ppb	NA	NA	0.2	Range	ND-0.28
					Average	0.05
Hexavalent Chromium (Dissolved)	ppb	NA	NA	0.03	Range	0.03-0.27
					Average	0.133
Molybdenum	ppb	NA	NA	1	Range	ND-4.2
					Average	3.3
Strontium	ppb	NA	NA	0.3	Range	28-850
					Average	595
Vanadium	ppb	NA	NA	0.2	Range	ND-4.3
					Average	25
Perfluoro octanesulfonic acid – PFOS	ppb	NA	NA	0.04	Range	ND-0.043
					Average	0.004
Perfluorooctanoic acid – PFOA	ppb	NA	NA	0.02	Range	ND-0.029
					Average	0.005

Water-saving Tip: *The typical person can use as much as 150 gallons of water to wash an average size car. Using a pail of soapy water to wash your vehicle and using the hose only for rinsing is a better alternative.*



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	63-89	130	74-120	ND-340	110-120
					Average	78	130	87	207	115
Calcium	ppm	NA	NA	NA	Range	19-28	66-69	31-36	ND-190	59-73
					Average	24	68	34	114	66
Hardness ⁽¹⁾	ppm	NA	NA	NA	Range	100-120	270-280	120-140	ND-700	230-290
					Average	110	270	133	410	260
Magnesium	ppm	NA	NA	NA	Range	12	25	11-13	ND-71	19-25
					Average	12	25	12	30	22
pH	pH Units	NA	NA	NA	Range	8.4	8.2	7.5-8.55	5.6-7.8	-
					Average	8.4	8.2	8.1	7.2	-
Potassium	ppm	NA	NA	NA	Range	2.8-3.0	4.4-4.5	<1-1.4	ND-12	3-4
					Average	2.9	4.4	1	4	3.5
Sodium ⁽⁵⁾	ppm	NA	NA	NA	Range	63-72	84	40-43	ND-190	75-87
					Average	68	84	42	98	81
Bicarbonate	ppm	NA	NA	NA	Range	-	-	90-140	ND-420	130-140
					Average	-	-	106	252	135

Water-saving Tip: *Don't water when it's windy and water early, before 10 a.m., to avoid evaporation.*

2014 Annual Water Quality Report for 2013

Parameter	Units	State MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Avg/ Max RAA	Distribution System Wide	Major Sources in Drinking Water	Health Effects Language
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DISINFECTION BYPRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BYPRODUCT PRECURSORS FEDERAL RULE (m)

Total Trihalomethanes (TTHMs) (n)	ppb	80	NA	1	Range	ND-42	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.
					RAA	31.3		
Haloacetic Acids (o)	ppb	60	NA	1	Range	ND-17	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.
					RAA	15.5		
Bromate (Mills – WR-24 Conn.) (l)	ppb	10	0.1	1	Range	1.0-12	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	3.9		
Chloramines	ppm	[4]	[4]	NA	Range	0.44-2.9	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	1.64		
Control of DBP precursors (TOC)	ppm	TT	NA	0.3	Range	1.9-2.8	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.
					Avg	2.4		

Water-saving Tip: *Get hot water faster with a recirculating hot water pump or by insulating your pipes with pre-slit foam pipe insulation. It could save thousands of gallons of water per year.*

● Key to Abbreviations

CFU/mL	Colony-Forming Units per Milliliter	N	Nitrogen	ppb	Parts per billion or micrograms per liter ($\mu\text{g/L}$)	RAA	Running Annual Average
DBP	Disinfection Byproducts	NA	Not Applicable	ppm	Parts per million or milligrams per liter (mg/L)	TOC	Total Organic Carbon
DLR	Detection Limits for purposes of Reporting	ND	Not Detected	ppt	Parts per trillion or nanograms per liter (ng/L)	$\mu\text{S/cm}$	microSiemen per centimeter; or micromho per centimeter ($\mu\text{mho/cm}$)
MBAS	Methylene Blue Active Substances	NL	Notification Level				
		NTU	Nephelometric Turbidity Units				
		pCi/L	PicoCuries per liter				

● 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: 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.

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 2013, 1,606 samples were analyzed and five 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) State MCL is 45 mg/L as nitrate, which is the equivalent of 10 mg/L as N.
- (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 CDPH determine where certain contaminants occur and whether the contaminants need to be regulated.
- (h) The 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) Perchlorate reporting level is 4 ppb.
- (j) Data collected from four consecutive quarters of monitoring.
- (k) This constituent was detected at high levels exceeding the MCL at the source with bold font. Please note that this water is treated and 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 to provide customers with the highest quality drinking water.



Have your water heater regularly checked. Just 60 drops of water per minute from a leaking unit can waste 192 gallons per month.

- (m) The City of Corona was in compliance with all provisions of the Stage 2 Disinfectants and Disinfection Byproducts Rules (D/DBP). Stage 2 D/DBPR monitoring began in the 2nd quarter of 2012. Compliance was based on the RAA.
- (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) Chromium VI reporting level is 1 ppb.
- (r) Hardness is the sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally occurring.
- (s) Sodium refers to the salt present in the water and is generally naturally occurring.
- (t) 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.

- (u) Aluminum has a secondary standard limit. In 2013 the secondary standard limit was exceeded at our Treatment Facility effluent with a Maximum Running Annual Average (Max RAA) of 286 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 2014. Our current Max RAA for 2014 is 195 ug/L.



Free landscape check-ups help identify ways to lower your water bill.

- (v) Data was collected October 2013 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 were conducted by contract laboratories. Values listed in state DLR column are federal minimum reporting levels.

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 260 ppm or 15.2 grains per gallon, classified as hard to very 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.



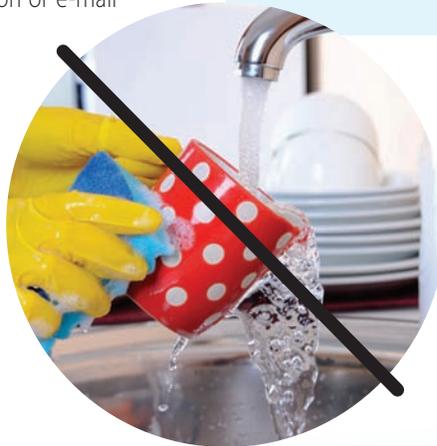
My water pressure has been very high recently, what's wrong?

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.

Where can I get information on how to conserve water?

Call us! The best way to get information on water conservation for your home or business is to call our office and talk to our Water Resources Team. Please call us at 951-736-2234. Our website also has a lot of good conservation tips and rebate information to help you conserve water. Please visit www.CoronaDWP.org for more information or e-mail StopTheDrop@discovercorona.com.

Water-saving Tip: *Don't let the faucet run while washing dishes by hand. Fill one side of a double-basin sink with soapy water and the other side with rinse water.*



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 en el 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.

Water-saving Tip: *For single-basin sinks, assemble your dishes in a dish rack after washing and rinse the soapy dishes with a sprayer.*



City of Corona

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