

Annual Drinking Water Quality Report



Calendar Year 2018

Western's tap water is safe to drink



The tap water that comes out of your faucet has to meet rigorous state and federal regulatory standards; otherwise, Western wouldn't be able to deliver it to your home. Western's annual water quality report shares details about the water you receive at your home. You can see for yourself that we are meeting and even exceeding standards required to maintain water quality.

For individuals with special health concerns, refer to the article inside titled, "Special Health Information."



Industrial and commercial users, including hospitals, medical centers and health clinics, please forward this report to your environmental compliance manager.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Si desea más información, por favor contacte Sarah Macdonald en strategic communications a Western Municipal Water District, 951.571.7255 o smacdonald@wmwd.com.

Letter From The General Manager



Dear Valued Western Customer:

This year, Western is celebrating 65 years of service. I am proud to lead a forward-looking team responsible for providing water and wastewater services to nearly a million people in western Riverside County – one of California’s fastest growing regions. Providing customers with an exceptional experience is a top priority. We strive to provide a highly valuable service by coupling the reliable delivery of the purest quality drinking water with best-in-class customer service. The Western team works tirelessly to ensure our water supply is reliable by diversifying between imported and local water sources to keep supply costs as low as possible. The team makes certain that water and sewer operations are conducted in an environmentally sensitive manner and as cost efficiently as possible.

Over the last few years, Western has focused on important capital improvement projects designed to enhance local water supply reliability and reduce the region’s dependence on imported water – all while remaining dedicated to delivering the highest quality water to the homes and businesses that depend on us. Below are recent project highlights:

La Sierra Water Conveyance Facilities

The La Sierra Pipeline and Sterling Pump Station projects represent a \$39 million investment in local, drought-resilient drinking water for our region. Since June 2017, construction crews have been working on La Sierra Avenue to install a 30-inch pipeline that will link the District’s existing imported water distribution system to the Arlington and Chino Desalters and the Sterling Reservoir. Approximately 5 miles of pipe have been installed to complement imported water with local supplies.

The Sterling Pump Station has been under construction since spring 2018 and will be completed in winter 2019. The pump station will lift high-quality drinking water from the desalters nearly 1,000 feet uphill to customers throughout Western’s area. The new facilities will also enhance local water reliability in the event of a temporary outage of imported water supplies due to drought or natural disaster.

Victoria Recharge Basin

In order to enhance local supplies, we need to ensure the local groundwater basin remains well managed to support future generations. Construction of the groundwater recharge basin at the corner of Victoria Avenue and Jackson Street in Riverside will increase the long-term sustainability of the local groundwater and allow Western to operate the Arlington Desalter at its most economically efficient capacity. The recharge process will increase groundwater availability by capturing and recharging free, high-quality stormwater. The recharge project is an essential part of our future supply portfolio.

Western is focused on earning the highest level of customer trust. Our customers are essential partners in the long-term water security for our region. Through a commitment to transparency, superior service and clear communication, we work hand-in-hand on important water issues that make our local economy thrive and our communities beautiful places to live.

A handwritten signature in blue ink that reads "Craig Miller".

Craig Miller
General Manager



Western Replaces Nearly 11,000 Water Meters

To ensure meters are accurately measuring a customer's water use, Western has replaced approximately half, or 11,000, of the older water meters in its Riverside Service Area.

11,000 
older water meters replaced

Water meters can slow down over time, meaning that they begin to under-register your water usage. Known as "smart meters," the new meters are able to automatically store and transmit hourly water use to Western once

each day. Access to daily information will enable Western to help customers resolve an unexpectedly high water bill by pinpointing when the water was delivered through the meter.



A Local Groundwater Source for Murrieta

Following months of planning and design work, Western is reestablishing a well in Murrieta to continue its investment in cost-effective local water sources and spend less money on imported water. Approximately 20 percent of the Murrieta Service Area's water supply is currently pumped from the local groundwater basin, and the rest is purchased from northern California. This new well will provide more local water and long-term rate stability for Murrieta customers.

The project involves removing an old well, taken out of service in 2017. This reestablished well will produce up to 45,000 gallons of water per hour and will return local water production to about 50 percent of the total service area demand. As Western moves into the future, we will continue to look for opportunities to utilize local water resources whenever possible.



This reestablished well will produce up to **45,000 gallons** of water per hour

Regional Agreement Helps to Save \$2.6M for Western

Since entering into a historic water supply agreement in 2017, the city of Riverside and Western have made significant strides to boost citywide use of local water supplies for all customers. The agreement solidified the long-term partnership between Riverside's two water suppliers. This allowed Western to purchase surplus Riverside groundwater from the San Bernardino Basin instead of more costly imported water.

In its first calendar year, the partnership resulted in a \$2.6 million savings for Western and \$4.5 million in revenue to the City, which helps avoid larger water rate increases for all customers. The agreement brings 2.4 billion gallons of local groundwater to Western's customers, which is enough annual water supply for about 15,000 single-family homes.

"The city of Riverside and Western celebrate the anniversary of the historic, innovative and long-term agreement. The agreement capitalizes on local water sources at costs that are considerably less than imported water from Northern California," said Western's Board President Bob Stockton. "This agreement was the result of superb cooperation between agency staff, who endeavored to make it happen."



\$2.6 MILLION
SAVINGS for Western

and **\$4.5 MILLION IN**
REVENUE to the city,

Throughout the next 20 years, this partnership is expected to bring a cost savings of about \$45 million to Western when compared to the rising cost of imported water. Western purchases "surplus water" and transports other water supplies through the City. Western pays for the use of Riverside's distribution and

treatment system, as well as the associated energy costs to move groundwater to the Western service area.

20 YEARS

\$45 MILLION
SAVINGS

Landscape Book now Offered in Spanish

The *SoCal Yard Transformation* guide is now available in Spanish. The landscaping guide is free and available to Western customers, as well residents throughout the Santa Ana River Watershed. The Spanish version was developed with the desire to reach the more than 1.5 million Hispanic/Latino residents in the watershed region.

With California's unpredictable water supply and cyclical drought conditions, the guide offers full-color illustrations and easy-to-understand steps to assist homeowners to convert to climate-appropriate and sustainable landscapes. This guide provides important recommendations on how to create permanent water-saving changes in our own yards.

The book in both English and Spanish was made possible by the Safe Drinking Water, Water Quality, and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). For more information, or to request a copy, please call **951.571.7100** or visit **wmwd.com**.



Annual Open House Event to Replace Earth Night in the Garden

On **Saturday, November 16**, Western will be hosting its inaugural Open House at the District's administrative office located at 14205 Meridian Pkwy in Riverside from 11 a.m. to 3 p.m. The new event, in lieu of Earth Night in the Garden, will feature all things Western and celebrate the District's 65th anniversary. The community will be invited to learn about what it takes to deliver high quality water, produce recycled water, construct and maintain pipelines and pump stations, plan for future demands, and more. We'll have children's water-related, hands-on activities, free food, and an opportunity to ask questions of Western's team. For more information, visit **wmwd.com**.

WESTERN'S 65TH ANNIVERSARY

In 1954 when Western was formed by a vote of the people, the area looked much different than it does today.

It was primarily agricultural with many ranches and citrus and avocado farms. Community leaders at the time saw the need for adequate water resources, not only for the residents that were moving to the inland region following World War II, but also for the growing farming sector. With a vision for the future, the Western Municipal Water District was formed to deliver a supplemental imported water supply.

Presently in 2019, Western continues to serve the community providing wholesale supplemental water supplies to seven retail water providers throughout western Riverside County. Currently, 28 billion gallons of safe, reliable water are delivered annually to a population of nearly 1 million people every single day, seven days a week.



As this once small farming town has developed to a thriving community of homes and businesses, Western has remained committed to the people it serves. What was once solely a retail service area located in the city of Riverside and areas of unincorporated Riverside County has evolved to include portions of Murrieta, as well as a small area near Rainbow.

Western remains just as committed to delivering a clean, reliable water supply today as it was 65 years ago.



1954-2019

WHAT IS IN MY WATER?

Drinking water, including bottled water, may contain at least small amounts of some chemicals measured in the parts per million, billion or trillion. The presence of chemicals at these low levels does not mean that water poses a health risk. For more information about chemicals and potential health effects, call the U.S. Environmental Protection Agency EPA Safe Drinking Water Hotline at **800.426.4791** or visit epa.gov/safewater.



WHERE YOUR WATER COMES FROM



Securing Your Water Supply

Imported Water

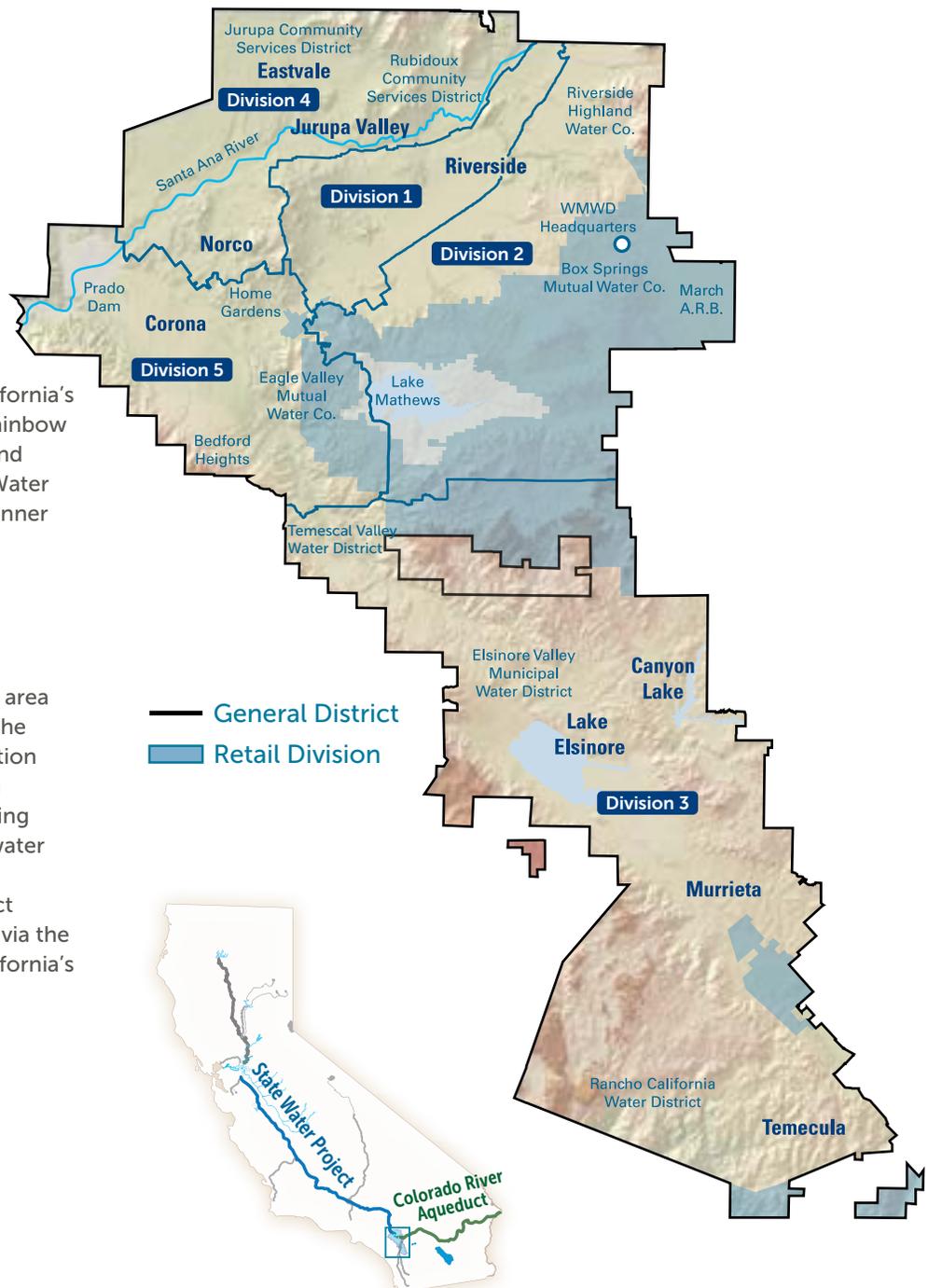
In Western's Riverside Service Area, water is mostly supplied from Northern California through the State Water Project via the Metropolitan Water District of Southern California's Henry J. Mills Water Treatment Plant. The Rainbow community receives Colorado River water and State Water Project water via Metropolitan Water District of Southern California's Robert F. Skinner Water Treatment Plant.

Groundwater

A small portion of Western's water supply is groundwater from the San Bernardino Basin area that is delivered via the city of Riverside for the Riverside service area. Groundwater production wells deliver a portion of the water supply in Murrieta, which have been a source of drinking water for decades. It comes from a groundwater basin that lies beneath Murrieta. Imported Colorado River water and State Water Project water are also provided in our Murrieta area via the Metropolitan Water District of Southern California's Robert F. Skinner Water Treatment Plant.

Board of Directors

- | | |
|---------------------------|------------|
| Robert Stockton | Division 1 |
| Gracie Torres | Division 2 |
| Brenda Dennstedt | Division 3 |
| Donald D. Galleano | Division 4 |
| S.R. "Al" Lopez | Division 5 |



Water Quality Table | Calendar Year 2018

Primary Drinking Water Standards Mandatory Health Related Standards Inorganic Chemicals	Units of Measure	State/Fed MCL [MRDL]	PHG (MCLG) [MRDLG]	Riverside (a)		Murrieta (a)		Rainbow (a)		Primary Sources
				Average	Range	Average	Range	Average	Range	
Aluminum	ug/L	1000 (200 secondary)	600	58	ND-120	ND	ND-100	51	ND-100	Residue from water treatment process; natural deposits erosion
Arsenic	ug/L	10	0.004	ND	ND-2.9	ND	ND-6.6	ND	ND	Natural deposits erosion, glass and electronics production wastes
Fluoride	mg/L	2	1	0.6	0.4-0.8	0.60	0.3-0.8	0.7	0.6-0.8	Erosion of natural deposits; water additive that promotes strong teeth
Nitrate (N)	mg/L	10	10	2.3	0.6-6.2	ND	ND	ND	ND	Runoff and leaching from fertilizer use; septic tank and sewage; natural deposits erosion
Radiological										
Gross Alpha	pCi/L	15	(0)	ND	ND	ND	ND-4	ND	ND-4	Erosion of natural deposits
Gross Beta	pCi/L	50	(0)	ND	ND	ND	ND-5	ND	ND-5	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	3.4	ND-12	ND	ND-3	ND	ND-3	Erosion of natural deposits
Secondary Standards - Aesthetic Standards Inorganic Chemicals										
Chloride	mg/L	500 (secondary)	NA	67	32-91	92	87-94	92	90-93	Runoff/leaching from natural deposits
Manganese	ug/L	50 (secondary)	NL=500	ND	ND	ND	ND-22	22	22	Leaching from natural deposits
Sulfate	mg/L	500 (secondary)	NA	51	34-78	150	60-175	172	168-175	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	mg/L	1000 (secondary)	NA	316	272-430	482	330-526	518	510-526	Runoff/leaching from natural deposits; seawater influence
Physical Properties										
Color	Units	15 (secondary)	NA	ND	ND	ND	ND	ND	ND	Naturally-occurring organic materials
Specific Conductance	umhos	1600 (secondary)	NA	544	246-815	744	428-1061	846	841-851	Substances that form ions in water; seawater influence
Turbidity (b)	NTU	5 (secondary)	NA	ND	ND-0.58	ND	ND-0.24	0.13	ND-0.29	Soil runoff
Other Parameters Tested										
Alkalinity	mg/L	NA	NA	108	66-200	102	82-109	106	104-109	Runoff/leaching from natural deposits
Boron	ug/L	NA	NL=1000	154	140-160	120	120	120	120	Runoff/leaching from natural deposits; industrial wastes
Calcium	mg/L	NA	NA	36	16-73	49	19-58	56	54-58	Runoff/leaching from natural deposits
Chlorate	ug/L	NA	NL=800	28	ND-66	43	43	43	43	Byproduct of drinking water chlorination; industrial processes
Chromium VI	ug/L	NA	0.02	1.1	ND-2.4	ND	ND	ND	ND	Runoff/leaching from natural deposits; discharge from industrial waste factories
Hardness	mg/L	NA	NA	134	86-220	193	50-238	228	218-238	Runoff/leaching from natural deposits
Magnesium	mg/L	NA	NA	11	8.7-12	18	ND-22	22	21-22	Runoff/leaching from natural deposits
Potassium	mg/L	NA	NA	2.9	2.8-3.2	3.6	ND-4.5	4.2	4.0-4.5	Runoff/leaching from natural deposits
Sodium	mg/L	NA	NA	56	40-63	90	85-110	88	85-92	Runoff/leaching from natural deposits
pH	pH units	NA	NA	7.9	6.2-9.1	8.30	7-9.36	8.1	8-8.2	Physical Property
Vanadium	ug/L	NA	NL=50	3.3	ND-6.8	ND	ND	ND	ND	Naturally-occurring; industrial waste discharge
N-Nitrosodimethylamine (NDMA)	ng/L	NA	3; NL=10	ND	ND	4.1	4.1	4.1	4.1	Byproduct of drinking water chlorination; industrial processes
HAA6Br	ug/L	NA	NA	5.6	ND-14.7	7.9	3.9-14.1	No data		Unregulated chemicals requiring monitoring in the distribution system.
HAA9	ug/L	NA	NA	9.7	ND-29.9	13.4	5.9-25.7	No data		Unregulated chemicals requiring monitoring in the distribution system.
Germanium	ug/L	NA	NA	0.2	ND-0.38	ND	ND	No data		Unregulated chemicals requiring monitoring in the distribution system.
Manganese	ug/L	NA	NA	1.8	ND-6.6	12.1	5.6-23	No data		Unregulated chemicals requiring monitoring in the distribution system.
Regulated in the Distribution System										
Disinfection By-products (c)				Riverside (a)		Murrieta (a)		Rainbow (a)		
Total Trihalomethanes (TTHMs)	ug/L	80	NA	25.3	2.6-26	20.5	7.8-24	28.3	18-37	Byproduct of drinking water chlorination
Haloacetic Acids (HAAS)	ug/L	60	NA	8.4	ND-10	10.2	<2-7.9	7.9	<2-9.2	Byproduct of drinking water chlorination
Bromate	ug/L	10	0.1	3.7	ND-10	3.7	ND-5.9	3.7	ND-5.9	Byproduct of drinking water ozonation
Microbiological										
Total Coliform (d)	%	5	(0)	0%	0-2%	0	0	0	0-1	Naturally present in the environment
Giardia (e)	cysts/200 L	TT	(0)	ND	ND	ND	ND-1	ND	ND-1	Human and animal fecal waste
Disinfectant										
Chloramines	mg/L	[4]	[4]	1.0	0-3.4	1.53	0-3.24	1.30	0.32-2.7	Drinking water disinfectant added for treatment

ND = Not Detected

Abbreviations

MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum Residual Disinfectant Level Goal
N/A	Not Available
ND	Not Detected
NL	Notification Level
NS	No MCL Standard
NTU	Nephelometric Turbidity Units; a measure of the suspended material in water
PHG	Public Health Goal
ppm	parts per million
ppb	parts per billion
ppt	parts per trillion
pCi/L	picoCuries per Liter
Units	A measure of the relative color or odor in the water
µS/cm	microSiemens per centimeter
<	Less than
[]	Brackets refer to MRDL or MRDLG
mg/L	milligrams per liter (equivalent to ppm)
ug/L	micrograms per liter (equivalent to ppb)
ng/L	nanograms per liter (equivalent to ppt)

Footnotes

- Groundwater from the Bunker Hill Basin was obtained from the city of Riverside to supplement imported water from the Metropolitan Water District's Henry J. Mills Treatment Plant. The data presented for Murrieta reflects the characteristics of groundwater distributed to the service area. Water was also imported from Metropolitan Water District's Robert F. Skinner Treatment Plant to supplement groundwater. The information for the Rainbow system reflects the quality of water obtained from Metropolitan's Skinner Plant.
- Turbidity is a measure of the cloudiness of the water. High turbidity can hinder the effectiveness of disinfectants. We monitor it because it's a good indicator of water quality and the effectiveness of filtration systems, where used.
- Compliance to the MCL is based on running annual average only, not the range of parameters. Individual measurements, shown in the range, that are above the MCL do not indicate an exceedance of the regulatory standard.
- The Murrieta and Rainbow system collect less than 40 samples per month, thus an exceedance of the Total Coliform MCL occurs when two or more samples in a month are total coliform positive.
- A single Giardia cyst was detected in one sample from the filter effluent at the Skinner Water Treatment Plant, prior to the treated water reservoir and addition of final disinfectant. The monitoring method detects all cysts, regardless of whether they are alive or dead. The plant met all operational and regulatory requirements throughout the year, including at the time of this single sampling event, and there was no regulatory violation.

Measurement Terms

This water quality table provides data on the levels of constituents detected and how these compare to state and federal standards. For questions, suggestions or comments about the information contained in this Water Quality Report, or for additional copies, contact Sarah Macdonald, director of strategic communications at **951.571.7255** or via email at **smacdonald@wmwd.com**.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in safe 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. There are several secondary standards set by the state. The standards listed in our water quality table are the most conservative set by the state. Individual measurements above the secondary MCL listed in the table do not indicate an exceedance of the regulatory standard.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below for which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. Adding a disinfectant is necessary to control microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below for which there is no known or expected risk to health. MRDLGs do not reflect the benefits of using disinfectants to control microbial contaminants.

Notification Level (NL): The level at which notification of the public water system's governing body is required. Prior to 2005, NL was known as the Action Level (AL).

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Public Health Goal (PHG): The level of a contaminant in drinking water below for which there is no known or expected health risk. PHGs are set by the California Environmental Protection Agency.

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.

The Lead and Copper Rule

The Lead and Copper Rule (LCR) was developed to protect public health by minimizing lead and copper levels in drinking water. The most common source of lead and copper in drinking water is corrosion of plumbing materials. Plumbing materials that can be made with lead and copper include pipes, solder, fixtures and faucets. The LCR established an action level of 15 ppb (parts per billion) for lead and 1.3 ppm (parts per million) for copper based on the 90th percentile level of tap water samples. If more than 10 percent of the samples are above either action level, further actions are required. The Maximum Contaminant Level Goal (MCLG) for copper is 1.3 ppm; there's no MCLG for lead. Lead and copper are sampled on a state mandated three-year testing cycle with sampling conducted at selected customer taps.

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.

Western is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components beyond the meter. 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 two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water **Hotline 800.426.4791** or at **epa.gov/safewater/lead**.

Lead Sampling in Schools: During 2018, 14 schools requested lead sampling.

Lead and Copper Rule: Thirty-two homes were tested in the Riverside service area within the last three-year testing cycle, completed in August 2016.

Thirty-one homes were tested in the Murrieta service area within the last three-year testing cycle, completed in November 2016. Ten homes were tested in the Rainbow service area within the last three-year testing cycle completed in June 2018.



Lead and Copper Testing (Inorganic) Regulated at Customers's Tap		
	Lead (ppb)	Copper (ppm)
Action Level @ 90th Percentile	15	1.3
Maximum Contaminant Level Goal (MCLG)	N/A*	1.3
Riverside		
90th percentile value	ND*	0.21
# of homes over action level	1 of 32	0 of 32
Murrieta		
90th percentile value	ND*	0.35
# of homes over action level	0 of 31	0 of 31
Rainbow		
90th percentile value	ND*	0.48
# of homes over action level	0 of 10	0 to 10

* Please see abbreviations to the right of the Water Quality Table.

SPECIAL HEALTH INFORMATION

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, and some elderly individuals and infants can be particularly at risk of infections.

Water quality monitoring indicates no Cryptosporidium organisms in the Mills or Skinner sources and finished water. Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness.

Western encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may spread through means other than drinking water.

Nitrate in drinking water at levels above 10 mg/L is a health risk for infants less than 6 months old.

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 skin.

Nitrate levels above 10 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. At 2.3 mg/L in our Riverside service area, Western's nitrate level is well below 10 mg/L level set by state and federal standards.

Individuals with special health concerns should seek advice about drinking water from their healthcare provider. Both the U.S. Environmental Protection Agency and the Centers for Disease Control have guidelines on ways to reduce the risk of infection from Cryptosporidium and other microbial contaminants and are available from the Safe Drinking Water Hotline, **800.426.4791** or online at **epa.gov/safewater**.

SPECIAL EXCEPTIONS KIDNEY DIALYSIS/AQUARIUMS

Western uses chloramines to disinfect its drinking water. Customers who have unique water-quality needs and who use specialized home treatments, such as kidney dialysis machines, should make the necessary adjustments to remove chloramines. Like chlorine, chloramines are toxic to dialysis water. Customers who have fish tanks in their homes or businesses should also take precautions to remove chloramines prior to adding water to tanks. Effective treatments include using granular activated carbon filters or chemicals specifically designed to remove chloramines.



Drinking Water HOTLINE



More information about contaminants and potential health effects can be obtained by calling the U.S. EPA Safe Drinking Water Hotline at 800.426.4791.

Do We Have Your Info?

Please check the top section of your next water bill to ensure we have your correct primary phone number. In case we need to contact you during an emergency, be sure to update your contact details, including your email.

Three different ways to update your info:

Call 951.571.7104

Email billing@wmwd.com

Fill out the change of mailing address and contact information section on the back of your bill stub and mail it with your payment.

Stay Connected



wmwd.com



outreach@wmwd.com



951.571.7100

