Rincon Water District

Quality – Sustainability

Special Issue
Drinking Water Report - 2011

1920 North Iris Lane, Escondido, CA 92026 760-745-5522 www.rinconwater.org

Rincon del Diablo Municipal Water District is pleased to present this year's water quality report. Rincon regularly tests your water to ensure compliance with federal and state guidelines. The results for 2011 demonstrate the success of these efforts. Of the 120 contaminants tested, all met each standard.

Water supplies and prices continued to make the headlines in 2011, and that trend is expected to continue. Why? Nearly all of our water originates as far away as Wyoming and northern California. We are dependent upon the neglected infrastructure of the State water conveyance system; we have also invested in capital improvement projects intended to help alleviate the effects of over-allocation and future droughts. As water agencies implement capital improvement projects to increase reliable deliveries of water supplies, energy and related expenses will continue to drive water costs even higher.

As our water supplies become even more challenged, it makes sense to find other ways to reduce our dependency on imported water. San Diego is a dry county. Annual precipitation levels are relatively low and ground water is limited within our rocky foundation. This means new sources of potable water are seawater desalinization and advanced-treated recycled water.

Regardless of the source of our future potable water supplies, the price tag will not be cheap. Our wholesalers' water rates are expected to continue increasing as they reinvest in infrastructure. There will come a time when the cost of imported water begins to match the costly price tag attached to desalination and advanced treated water.

Developing desalinated and advanced-treated recycled water locally will be expensive. The ongoing cost of purchasing energy that is needed to fuel these types of treatment facilities will be a significant factor. There is one notable benefit however - increased reliability of potable water supplies.

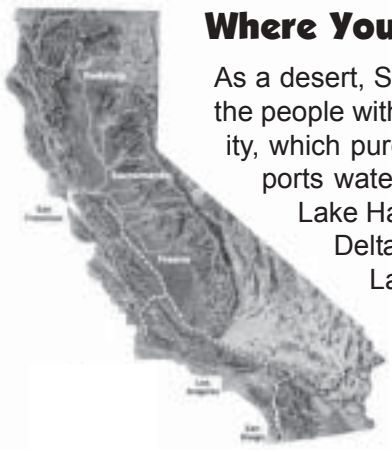
The Carlsbad Desalination Project will provide San Diego County with a drought-proof supply of high-quality water that meets or exceeds all state and federal drinking water standards.

Both seawater desalinization and advanced treated recycled water are based on science that is not new. Both processes have been used quite extensively and successfully since the 1970s. Although the higher price tag and public acceptance have kept both opportunities on hold, we're smarter and more technically advanced that ever before.

Please contact us if you have any questions or comments about your water.

This report is required under the Federal Safe Drinking Water Act and provides information on:

Where Your Water Comes From

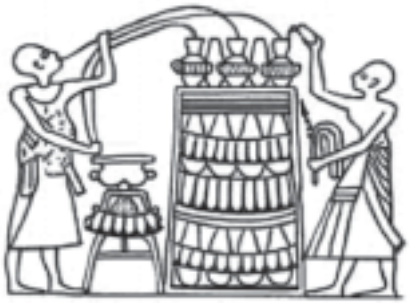


California Aqueduct
Colorado River Aqueduct

As a desert, San Diego County has very few local sources of potable water. In order to meet the needs of the people within the service area, Rincon purchases your water from the San Diego County Water Authority, which purchases water from the Metropolitan Water District of Southern California (MWD). MWD imports water from two sources: a 242 mile-long aqueduct which transports Colorado River water from Lake Havasu and a 444 mile-long aqueduct that transports water from the Sacramento-San Joaquin Delta in Northern California to Lake Skinner, located in Riverside County. The water is treated at Lake Skinner before delivery into our distribution system.

Southern California has always been subject to water shortages. Years of drought in northern California and the Colorado River watersheds, environmental issues, infrastructure challenges, and water rights continue to affect the reliability of potable water in San Diego County. With the rising cost of importing water along with the uncertainty of meeting future water demands, we are looking toward desalinated and groundwater, and increased use of recycled water in the near future in order to reduce our dependency on imported water.

Water Treatment



An Egyptian carving found on the wall of Amenophis II's tomb depicts water clarification, circa 1450 BC.

Evidence of water treatment dating back to 4,000 BC indicates that water treatment has been a significant part of man's civilization. Ancient water treatment focused only on odor, taste, and appearance. These aesthetic qualities were improved through filtration with simple filters constructed with cloth, gravel, or sand; settling techniques with the use of mineral additives such as aluminum or iron sulfate; and, distillation of water by boiling or solar heating. People were unaware of any contaminant unseen by the human eye.

Facilitated by improvements made to the microscope in the late 19th century, a link between biological pathogens and health was made. The sciences of microbiology and chemistry began to progress rapidly. Government took on the responsibility of ensuring clean, safe water in general. By 1914, drinking water standards were developed and further honed as technology advancements were made.

In 1974, the Safe Drinking Water Act was passed, and focused primarily on treatment in order to insure safe water. By 1996, the Act was further amended to enhance existing law by adding source water protection, operator training, funding for water system improvements, and public outreach - all important components of safe water.

Today, water treatment includes disinfection which deactivates and destroys pathogens, microorganisms, and microbiological contaminants which may be present in water. This is typically accomplished with the addition of chemical disinfectants into the water.

The EPA sets standards for water treatment and disinfection by-products in order to safeguard public health. The constituents located in the table to the right were identified in your drinking water resulting from the water treatment process.

Need Assistance?
¿Necesita Ayuda?

If you need assistance with the information contained in this report, please call Clint Baze, Director of Operations at (760) 745-5522.

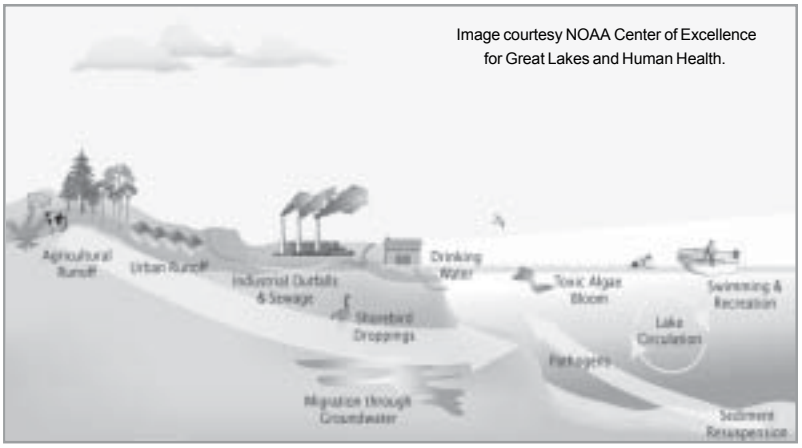
Este informe contiene informacion muy importante sobre su agua potable. Treduzcalo o hable con alguien que lo entienda bien. Si tiene preguntas favor de llamar al numero: (760) 745-5522.

Disinfection Byproducts, Residuals, and Precursors

Parameter (a)	Scale	State MCL [MRDL]	PHG [MCLG]	DLR	Results Range	Results Average	Source
Total Trihalomethanes (e)	ug/L	80	NS	1	8.5-77.0	43.0	1, 2
Running Annual Average					15.1-27.3	20.3	
Highest Running Average						34.5	
Haloacetic Acids (f)	ug/L	60	NS	1	ND-54.0	18.0	1, 2
Running Annual Average					4.1-21.3	8.5	
Highest Running Average						19.8	
Total Chlorine Residual	mg/L	[4]	[4]	-	1.3-2.8	2.3	
Running Annual Average					0.73-1.37	1.05	
Highest Running Average						1.37	
Bromate	ug/L	10	0.1	5	ND-6.1	ND	16
Chlorite	mg/L	1	0.8	-	ND	ND	1
Chlorate	ug/L	L=800	NS	20	47-47	ND	1

Water Contaminants

A contaminant is any impurity found in source water. The sources of these contaminants range from being naturally present in the environment to those introduced by land users and/or industrial waste discharges. There are five categories of contaminants listed in the chart below.



Clarity, or the lack thereof, does not necessarily represent contaminants with direct health risks. There is however, a relationship between clarity and the ability of chlorine to work effectively during the disinfection process. Water with poor clarity can hide or mask those contaminants which can be harmful to your health.

Microbiological contaminants, when ingested at certain levels, will cause gastrointestinal and health-related problems.

Primary Inorganic contaminants, when present at excessive levels, may have adverse effect on human health.

Secondary Inorganic contaminants can make the taste or appearance of water less appealing.

Unregulated contaminants are contaminants which have no established parameters at this time.

The water treatment process removes contaminants from your water and can be quite costly when specific contaminants are present. It is much less expensive to protect water at the source, which is why Rincon supports improved watershed protection programs. The following contaminants were identified in your drinking water:

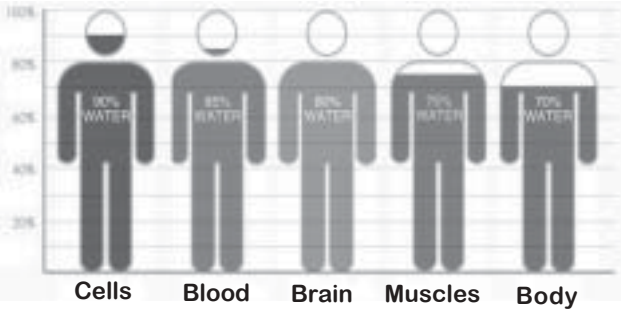
Parameter [a]	Scale	State MCL [MRDL]	PHG [MCLG]	DLR	Results Range	Results Average	Source
Clarity [b]							
Turbidity	NTU [c]	5	NS	NA	0.04-0.08	0.05	15
Microbiological [d] [e]	Monthly positives in DSYS						
Total Coliform Bacteria	%	5	0	-	ND-0.1	ND	4
Heterotrophic Plate Count	CFU/mL	NA	NA	NA	ND-1.0	ND	4
Primary Inorganic							
Fluoride	mg/L	2	1	0.1	0.7-0.9	0.8	5, 6
Nitrate as N	mg/L	10	10	0.4	ND	ND	5, 7, 8
Secondary Inorganic							
Chloride	mg/L	500	NS	NS	62-83	72	5, 9
Color	units	15	NS	NS	1-1	1	5, 10
Corrosivity	SI	Non-Corrosive	NS	-	Non-Corrosive	Non-Corrosive	
pH	units	6.5-8.5	NS	-	7.8-8.5	8.2	-
Specific Conductance	umho/cm	1600	NS	NS	390-840	630	9, 11
Sulfate	mg/L	500	NS	0.5	78-150	110	5, 6
Total Dissolved Solids	mg/L	1000	NS	NS	300-460	380	5, 9
Unregulated							
Alkalinity	mg/L	NS	NS	NS	71-110	89	-
Boron	ug/L	[NL=1000]	NS	100	130-130	130	5, 9
Calcium	mg/L	NS	NS	NS	29-50	40	-
Chromium	ug/L	NS	.02	1	0.13-.013	0.13	4, 6
Hardness	mg/L	NS	NS	NS	100-220	160	-
Magnesium	mg/L	NS	NS	NS	13-20	25	-
N-Nitrosodimethylamine	ug/L	[NL=0.01]	.003	.002	ND-.004	ND	-
Odor Threshold	TON	3	NA	1	3-24	9	4
Potassium	mg/L	NS	NS	NS	3.0-3.8	3.4	-
Sodium	mg/L	NS	NS	NS	54-74	64	-
Total Organic Carbon	mg/L	NS	NS	0.3	1.8-2.7	2.2	12

All levels of these constituents were within the EPA and State limitations.

Water and Health

Intuitively, we know water has a significant influence on our health. So it's no surprise that doctors are focusing on dehydration as one of three key contributors of illness and disease, with the other two being an improper diet and stress.

Water comprises about 70% of the weight of a human body. For an average male, this equates to about 10.5 gallons of water. This water circulates through the blood and serves as intracellular (inside the cells) and extracellular (outside of the cells) fluids. Its circulation helps to reduce toxins that accumulate within our bodies, to dissolve substances, and to transport nutrients, minerals, and chemicals used in our biological processes.



When you consider how intrigal water is for the human body, it is easy to understand the implications on our biological processes and health.

Water is thought to contribute positive benefits in reducing symptoms associated with allergies, asthma, depression, anxiety, hypertension, diabetes, headache, colitis, and much more. Doctors also consider it to be a preventative substance that may reduce the likelihood and/or severity of urinary tract infections, kidney stones, constipation, and fatal heart attacks.

Water is sometimes claimed to be the cure-all for many illnesses and diseases. Although there is no current research that proves this, most doctors readily agree that water is definitely part of the cure.

There are several ways water is depleted from our bodies. As we sweat, urinate, and exhale, this water must be replaced on a daily basis. But how much is enough? There are two schools of thought on this: 1) Drink eight – 8 ounce glasses of water per day; or, 2) Divide your body weight by 2 - the result is the number of ounces of water you should drink each day. Whichever you choose, check with your doctor to see which is right for you.

As testing for water contaminants becomes more precise and health implications are refined, a specific contaminant may receive media attention. These contaminants are typically identified as having a potential, significant impact on health and/or the environment. Over the years, perchlorate, lead, copper, radionuclides, MTBE, and arsenic were on that list. For your assurance, those contaminants are listed below:

Parameter [a]	Scale	State MCL [MRDL]	PHG [MCLG]	DLR	Results Range	Results Average	Source
Arsenic	ug/L	10	.004	2	ND	ND	5, 6
Copper [g] [h]	mg/L	AL=1.0	0.3	.05	0.3-0.67	0	5, 10
Lead [g]	ug/L	AL=15	.2	5	ND	ND	5, 10
MTBE	ug/L	5	13	3	ND	ND	13
Perchlorate	ug/L	6	6	4	ND	ND	6
Radionuclides							
Gross Alpha Activity	pCi/L	15	0	3	ND-3.0	ND	5
Gross Beta Activity	pCi/L	50	0	4	ND-5.0	ND	14
Combined Radium [i]	pCi/L	5	0	-	ND	ND	5
Uranium	pCi/L	20	0.43	1	ND-2.0	1.0	5

Drinking Water and Weakened Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons 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 from their health care providers about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium or other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Get Involved...

Rincon del Diablo Municipal Water District is a public agency governed by a Board of Directors that meets on the second Tuesday of every month at 6:00 PM. Our address is 1920 North Iris Lane, Escondido, 92026. Call (760) 745-5522 or visit www.rinconwater.org for details.

Volunteer Opportunity

The Vegetation Action Committee is looking for a few new members to help implement an action plan to heighten wildfire awareness in the community. For more details, call (760) 745-5522, extension 503.

Abbreviations Key

AL	**Regulatory Action Level:** The concentration of a contaminant, which if exceeded, triggers treatment or other requirements, which a water system must follow.
CFU	**Colony-Forming Units**
DLR	**Detection Limit for Reporting:** A detected contaminant is any contaminant detected at or about its detection level for purposes of reporting.
DSYS	**Distribution System**
MCL	**Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to PHGs, MRDLGs, and maximum contaminant level goals as economically or technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
MCLG	**Maximum Contaminant Level Goal:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the United States Environmental Protection Agency (USEPA).
mg/L	**Milligrams Per Liter:** Parts per million (ppm). This is equivalent to one packet of artificial sweetener added to 250 gallons of iced tea.
NA	**Not Applicable**
ND	**None Detected:** Parameters for detection limits available upon request.
NL	**Notification Level**
NS	**No Standard**
MRDL	**Maximum Residual Disinfectant Limit:** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
MRDLG	**Maximum Residual Disinfectant Goal:** The level of a disinfectant added for water treatment below which there is not known or expected risk to health. MRDLs are set by the USEPA.
NTU	**Nephelometric Turbidity Units:** A measure of the cloudiness in water. It is a good indicator of effectiveness of the WTP and DSYS.
pCi/L	**PicoCuries Per Liter:** A measure of radioactivity.
PHG	Public Health Goal: 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.
SI	**Saturation Index** (langelier)
TON	**Threshold Odor Number**
TT	**Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.
ug/L	**Micrograms Per Liter:** Parts per billion (ppb). This is equivalent to one packet of artificial sweetener added to an Olympic size swimming pool.
umho/cm	**Micromhos Per Centimeter:** A measure of a substance's ability to convey electricity.
WTP	**Water Treatment Plant**

Source Key

1. By-product of drinking water chlorination **2.** Sampled quarterly **3.** Addition of chlorine & ammonia as combined disinfectant, chloramine **4.** Naturally present in the environment **5.** Erosion/ leaching of natural deposits **6.** Industrial waste discharge **7.** Runoff/leaching from fertilizer use **8.** Septic tank and sewage **9.** Seawater influence **10.** Corrosion of household plumbing systems **11.** Substances that form ions when in water **12.** Various natural and man-made sources **13.** Gasoline discharge from boats. **14.** Decay of natural and man-made deposits **15.** Soil runoff **16.** By-product of drinking water ozonation

Foot Notes

(a) Data shown are annual averages and ranges. **(b) Tests are performed on drinking water turbidity** (clarity) at the Water Treatment Plant and in the distribution system. The turbidity tests are done continuously at the WTP. In addition, samples are taken each week at various points in the distribution system. This table reflects the clarity or turbidity produced at the WTP and in the distribution system. **(c) 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 1.0 NTU at any time. **(d) Total coliform MCLs -** No more than 5% of the monthly samples may be total coliform positive. These MCLs were not violated in 2010. **(e) Calculated** from the average of quarterly samples. **(f) Calculated** from the average of quarterly samples. **(g) This table shows the levels of copper and lead** found in the homes of selected customers. The Copper Lead Rule requires the collection of special samples from designated residents every three years. The amount of lead and copper found in the samples is an indication of the degree of leaching within the customer-owned copper plumbing and brass faucets. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that your home's level may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about the elevated lead levels in your home's water, you may wish to have your water tested. If your water has been sitting, you can minimize the presence of lead by flushing your tap for 30 seconds to 2 minutes before continuing use. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791. **(h) The Federal and State standards** for lead and copper are treatment techniques requiring agencies to optimize corrosion control treatment. Average of the highest value is the 90th percentile value. **(i) Standards** are for Radium-226 and Radium-228 combined.

NOTICE

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 human activity. The following contaminants may be present in source water:

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 like agriculture, urban stormwater runoff, and residential uses.
Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

About Cryptosporidium

Cryptosporidium ("crypto") is a microscopic organism found in rivers and streams and comes from animal waste in the watershed. When ingested by humans, it may result in a variety of gastrointestinal symptoms including diarrhea, nausea, and fever. The Metropolitan Water District of Southern California (MWD) has tested for crypto in its treated water supplies for years. In 2010, this organism was not detected in MWD's source water.

Rincon Water District
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Escondido, CA 92026-1318

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San Diego, CA

Quality *Sustainability*

About Our Watersheds

A watershed is an area of land that water flows through as it moves toward a common body of water, such as a stream, river, lake, or coast. Although San Diego County contains twelve, these watersheds provide very little drinking water for the people that live here.

Your drinking water comes from the Colorado River and the San Joaquin-Sacramento River Watersheds, so the weather, people, animals, and industries there, affect our water supplies here. This means that our water supplies are influenced by issues that we can't totally control.

Parker Dam on the Colorado River

Although local rain allows us to turn off our irrigation controllers from time-to-time, what we should really hope for is lots of snow in the northern Sierras and non-drought conditions in Wyoming, Nevada, Utah, Colorado, and Arizona. But even with normal rainfall totals occurring there, a myriad of reasons such as competing interests may prevent us from obtaining all the water we need.

In the San Joaquin-Sacramento Delta alone, there are fish, birds, reptiles, mammals, and people that are dependant upon the Delta flows. In the Colorado River Watershed, water rights have been parceled out beyond reliable levels of available water. Making a long story short, our "drought" is a combination of climatic, ecological, economical, and judicial issues that won't be going away anytime soon.

In December 2002, the Metropolitan Water District of Southern California completed its source water assessment of its Colorado River and State Water Project supplies. Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban/stormwater runoff, increasing urbanization in the watershed, and wastewater while water supplies from northern California are most vulnerable to contamination due to urban/stormwater runoff, wildlife, agriculture, recreation, and wastewater impacts.