

VID tests the drinking water quality for many constituents as required by State and Federal regulations. This report shows the results of our monitoring for the period of January 1, 2015 through December 31, 2015.

WHAT'S THIS REPORT ABOUT?

We are pleased to present our Consumer Confidence Report (CCR), also known as the Water Quality Report. We take all steps necessary to safeguard your water supply, conducting more than 12,000 tests for over 75 drinking water constituents. This report provides a snapshot of the quality of water we provided last year. Included are details about where your water comes from, what it contains and how it compares to state standards. We are committed to providing you with information because informed customers are our best customers.

If you have any questions or concerns regarding the information presented in this report, please contact Dean Farris, Water Distribution Supervisor at (760) 597-3143. This report is also available on our website under the publications tab at www.vistawater.org.

LAST YEAR, YOUR WATER MET ALL FEDERAL AND STATE SAFE DRINKING WATER STANDARDS

WHERE DOES MY WATER COME FROM?



Local Water Source Map

The Vista Irrigation District (VID) uses four sources for your drinking water. The first one is local water, which originates from the watershed and well fields located near Lake Henshaw. VID owns the 43,000-acre Warner Ranch which encompasses the lake and monitors activities that could contaminate it. Water from Lake Henshaw is transferred to Lake Wohlford via a canal originally constructed in the 1890s. Once the water reaches the Escondido-Vista Water Treatment Plant (EVWTP), it is treated and disinfected to protect you against microbial contaminants.

The second water source is the Colorado River. The third source is from Northern California. The latter two, called imported water, are delivered to San Diego County and ultimately to VID via the Metropolitan Water District of Southern California (MWD) and the San Diego County Water Authority (Water Authority). Imported water may be treated at EVWTP, Water Authority's Twin Oaks Valley Water Treatment Plant in San Marcos, Oceanside's Robert A. Weese Filtration Plant, or MWD's Skinner Treatment Plant in Riverside County.

The fourth source is desalinated seawater from the Claude "Bud" Lewis Carlsbad Desalination Plant.

Esté informe contiene información muy importante sobre su agua potable. Comuníquese con Vista Irrigation District para obtener una copia de éste reportaje en Español.

Llame al (760) 597-3100.

WHAT WERE THE FINDINGS OF THE LOCAL AND IMPORTED SOURCE WATER ASSESSMENTS?

Local Water Sources

In August 2012, Vista Irrigation District, in conjunction with the City of Escondido, prepared a Sanitary Survey of the local watershed. This survey assesses activities within the watershed that have the potential to influence the quality of water delivered from Lake Henshaw, Dixon Lake and Lake Wohlford. While the survey identifies a number of activities that have the potential to adversely affect water quality, including residential septic facilities, highway run-off, and agricultural and recreational activities, no contaminants from these activities were detected in the local water supply in 2015. A copy of the Watershed Sanitary Survey, which contains a Source Water Assessment Program, is available for review at the District Office located at 1391 Engineer Street in Vista.



DO I NEED TO TAKE PRECAUTIONS?

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 by calling the Safe Drinking Water Hotline at 1-800-426-4791.

Imported Water Sources

The Metropolitan Water District of Southern California (MWD) completed its source water assessment of its Colorado River and California State Water Project supplies in December 2002. Colorado River supplies are considered to be most vulnerable to contamination from recreation, urban/storm water runoff, increasing urbanization in the watershed and wastewater. State Water Project supplies are considered most vulnerable to contamination from urban/storm water runoff, wildlife, agriculture, recreation and wastewater.

MWD updates its source water assessment through watershed sanitary surveys every five years. The most recent watershed sanitary surveys of its source water supplies from the Colorado River was updated in 2010 and the State Water Project was updated in 2011. Watershed sanitary surveys examine potential sources of contamination, summarize and evaluate water quality data and compliance with regulations, and recommend actions to better protect and improve source water quality.

WHY IS THERE ANYTHING IN MY WATER?

The sources of drinking water (both tap water 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.

The following contaminants may potentially be present in our water sources:

- *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 by-products 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.

Keeping You Informed

Seawater desalination ...an important component of a diversified water supply

For more than two decades, the San Diego County Water Authority (Water Authority) has viewed seawater desalination as an important component of a diversified water supply portfolio that is comprised of recycled water, groundwater, water transfers and imported water from the Metropolitan Water District of Southern California (Metropolitan). After nearly three years of construction, this vision has finally become a reality as the nation's largest seawater desalination plant in Carlsbad is now producing a drought-proof supply of water. The Claude "Bud" Lewis Carlsbad Desalination Plant (pictured) will produce enough water to meet 10 percent of the county's water demands.

The \$1 billion Carlsbad Desalination Project, which is comprised of the desalination plant, pipeline and upgrades to Water Authority facilities for distributing the desalinated water throughout the region, is the result of a 30-year Water Purchase Agreement between the Water Authority and Poseidon Water for the purchase of between 48,000 and 56,000 acre-feet per year of desalinated seawater. Poseidon Water developed the plant and pipeline with joint-venture contractor Kiewit Shea Desalination. The project will deliver about 50 million gallons



a day of drought-proof, highly reliable water that will become a core, day-to-day resource for the region.

According to the Water Authority, the Water Purchase Agreement sets the price of water produced by the desalination plant at \$2,131 to \$2,367 per acre-foot in 2016, depending on how much water is purchased. (One acre-foot is enough water to serve two average homes in a year.) The first 48,000 acre-feet purchased

each year will pay for the fixed costs of the project and the variable costs of water production. The Water Authority has the option to purchase an additional 8,000 acre-feet per year at a slightly lower rate.

The Carlsbad Desalination Project is an important part of the Water Authority's long-term strategy to improve the region's water

supply reliability. The desalination plant will make the San Diego region's water supplies more reliable by reducing dependence on imported water from Metropolitan that is vulnerable to droughts, natural disasters and regulatory restrictions. With the completion of the Carlsbad project, the Water Authority says it is on pace to meet its diversification goals for 2020.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (SWRCB) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

VID HAS NOT HAD ANY VIOLATIONS OF THESE REGULATIONS!

Lead and Copper

The Lead and Copper Rule requires VID to collect special samples every three years. The last samples were collected in 2015. Lead was not detected at reporting levels in either the source water or private households. Copper was not detected in the source water but was detected in low levels in private households. The source of copper comes from the leaching of copper used in household plumbing fixtures.

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. VID is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/lead>.

WHAT ARE THESE TABLES?

The data tables shown on this page and the following 2 pages list all of the drinking water constituents that were detected during the most recent sampling for the constituent. The presence of these constituents in the water does not necessarily indicate that the water poses a health risk. The State Water Resources Control Board (SWRCB) requires us to monitor for certain constituents less than once per year because the concentrations are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, are more than one year old. The terms used in these data tables can be found listed at the end of the table.

The following tables show water from three sources - local water from Lake Henshaw, which is treated at the Escondido-Vista Water Treatment Plant (EVWTP); imported water, which is treated at the San Diego County Water Authority's Twin Oaks Valley Water Treatment Plant, Metropolitan Water District of Southern California's Skinner Treatment Plant, the City of Oceanside's Robert A. Weese Filtration Plant and the EVWTP; and desalinated seawater, which comes from the Claude "Bud" Lewis Carlsbad Desalination Plant (Carlsbad Desalination Plant).

2015 WATER QUALITY MONITORING RESULTS

Parameter	Units	Federal or State MCL [MRDL]	PHG (MCLG) [MRDLG]	Range ----- Average	Treatment Plant Effluents			DLR	Typical Source/ Comments
					Escondido-Vista Water Treatment Plant	Skinner, Twin Oaks Valley, & Weese Water Treatment Plants Combined Effluents	Carlsbad Desalination Plant		
<i>Inorganic Constituents - Primary Standards</i>									
Fluoride (F-) Treatment Related	mg/L	2	1	Range	0.75 - 0.84	0.5 - 1.0	0.5 - 1.0	0.1	Erosion of natural deposits; water additive for dental health
				Average	0.8	0.75	0.8		
<i>Inorganic Constituents - Secondary Standards (Aesthetic Standards)</i>									
Aluminum (Al)	ug/L	200	NS	Range	NR	ND - 220	ND	50	Residue from water treatment process; natural deposits; erosion
				Average	NR	125	ND		
Color	Units	15	NS	Range	1 - 2	ND-1	ND	-	Decaying vegetation or other naturally occurring organic materials
				Average	1	ND-1	ND		
Chloride (Cl)	mg/L	500	NS	Range	88 - 110	85 - 105	40 - 54	-	Runoff/leaching from natural deposits; seawater influence
				Average	98	101	44		
Sulfate (SO ₄) ²⁻	mg/L	500	NS	Range	180 - 250	191 - 275	15.3 - 17.9	0.5	Runoff/leaching from natural deposits; industrial wastes
				Average	220	247	16.7		
Total Dissolved Solids	mg/L	1000	NS	Range	550 - 790	639 - 690	120 - 218	-	Runoff/leaching from natural deposits; industrial wastes
				Average	640	659	194		
Specific Conductance	umho/cm	1600	NS	Range	882 - 1,062	1,000 - 1,050	281 - 318	-	Substances that form ions in water; seawater influence
				Average	993	1,010	296		
<i>Inorganic Constituents - Unregulated</i>									
Boron (B)	mg/L	NL=1	NS	Range	0.13 - 0.21	.13 - .14	0.3 - 0.74	0.1	Runoff/leaching from natural deposits; industrial wastes
				Average	0.17	.135	0.41		
<i>Additional Analyzed</i>									
Total Alkalinity	mg/L	NS	NS	Range	120 - 160	98 - 133	46 - 56	-	Erosion of natural deposits; leaching
				Average	130	121	50.3		
Arsenic (As)	ug/L	10	0.004	Range	NR	ND-3	ND	2	Erosion of natural deposits; glass and electronics production waste
				Average	NR	1	ND		

2015 WATER QUALITY MONITORING RESULTS (continued)

Parameter	Units	Federal or State MCL [MRDL]	PHG (MCLG) [MRDLG]	Range ----- Average	Treatment Plant Effluents			DLR	Typical Source/ Comments
					Escondido-Vista Water Treatment Plant	Skinner, Twin Oaks Valley, & Weese Water Treatment Plants Combined Effluents	Carlsbad Desalination Plant		

Additional Analyzed (continued)

Bicarbonate (HCO ₃)	mg/L	NS	NS	Range	150 - 190	NR	NR	-	Erosion of natural deposits; leaching
				Average	160	NR	NR		
Hardness as CaCO ₃	mg/L	NS	NS	Range	210 - 300	200 - 320	39.5 - 60.3	-	Erosion of natural deposits; leaching
				Average	255	297	50.3		
Calcium (Ca)	mg/L	NS	NS	Range	51 - 75	48-82	15.3 - 23.3	-	Erosion of natural deposits; leaching
				Average	63	74	19.8		
Magnesium (Mg)	mg/L	NS	NS	Range	20 - 27	19 - 30	ND	-	Erosion of natural deposits; leaching
				Average	24	26	ND		
Nitrate (N)	mg/L	10	10	Range	NR	ND - 0.3	0.7 - 0.9	0.4	Runoff/leaching from fertilizer use; sewage; natural erosion
				Average	NR	ND	0.8		
Sodium (Na)	mg/L	NS	NS	Range	92 - 110	96 - 120	32.1 - 94.1	-	Erosion of natural deposits; leaching
				Average	103	106	39.9		
pH	units	NA	NS	Range	7.8 - 8.2	7.2 - 8.3	7.99 - 8.74	-	Measurement of acidity/ alkalinity
				Average	8.0	8.0	8.52		
Potassium (K)	mg/L	NS	NS	Range	4.6 - 5.5	4.7 - 5.1	1.0 - 1.6	-	Erosion of natural deposits; leaching
				Average	4.9	4.9	1.4		
Total Chlorine Residual	mg/L	[4.0]	[4.0]	Range	2.6 - 3.5	1.6 - 3.7	2.08 - 3.44	-	Addition of chlorine and ammonia as combined disinfectant chloramines
				Average	3.2	2.7	2.95		
Chlorite	mg/L	1	0.05	Range	0.48 - 0.70	NR	NR	0.02	Byproducts of drinking water chlorination
				Average	0.59	NR	NR		
Chlorate	ug/L	NL=800	NS	Range	170 - 440	28 - 320	NA	20	Byproducts of drinking water chlorination
				Average	270	117	NA		
Total Organic Carbon (TOC)	mg/L	TT	NS	Range	2.2 - 4.3	2.0 - 2.6	ND - 1.18	0.3	Naturally occurring organic material
				Average	2.6	2.2	ND		
Silica (SiO ₂)	mg/L	NS	NS	Range	6.7 - 7.6	NR	NR	-	Erosion of natural deposits; leaching
				Average	7.3	NR	NR		

Radionuclides Analyzed Every Four Years, for Four Consecutive Quarters

Gross Alpha Activity	pCi/L	15	0	Range	ND - 7.8	ND - 5	ND	3	Erosion of natural deposits
				Average	3.8	ND	ND		
Gross Beta Activity	pCi/L	50	0	Range	NR	ND - 5	ND	4	Decay of natural and man-made deposits
				Average	NR	ND	ND		
Uranium (U)	pCi/L	20	0.43	Range	2.4 - 2.4	1 - 2.3	ND	1	Erosion of natural deposits
				Average	2.4	2	ND		

Microbiological Constituents in VID Distribution System

Total Coliform Bacteria (monthly positives)-	%	5	(0)	Range	0% - 0.97%			-	Naturally present in the environment
				Monthly Highest	0.97%				
Fecal Coliform/ E.Coli	%	*	(0)	Range	0%			-	Naturally present in the environment
				Average	-				

***Fecal Coliform/E.Coli MCLs:** The occurrence of two consecutive total coliform positive samples, one of which contains fecal coliform/E.Coli, constitutes an acute MCL violation. **The MCL was not violated in 2015.**

2015 WATER QUALITY MONITORING RESULTS (continued)

Parameter	Units	Federal or State MCL	PHG (MCLG)	Range ----- Average	Treatment Plant Effluents			DLR	Typical Source/ Comments
					Escondido-Vista Water Treatment Plant	Skinner, Twin Oaks Valley & Weese Water Treatment Plants Combined Effluents	Carlsbad Desalination Plant		
Organic Constituents - Primary Standards (Disinfection Byproduct in Treatment Plant Effluent)									
Effluent Total Trihalomethanes	ug/L	80	NS	Range	22 - 59	12 - 28	ND	NS	Byproduct of drinking water chlorination
				Average	42	18.5	ND		
Effluent Haloacetic Acids (HAA5)	ug/L	60	NS	Range	14 - 28	ND - 8.0	ND	NS	Byproduct of drinking water chlorination
				Average	21	ND - 6.2	ND		
Clarity (Turbidity)									
Combined Filter	NTU	TT=1	NA	Range	0.03 - 0.17	0.01 - 0.15	NR	NA	Soil Runoff
				Highest	0.17	0.15	0.04		
Effluent Turbidity* % of readings below 0.3 NTU	%	95%	NA		100%	100%	100%	NA	Soil Runoff
* Turbidity is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results, which meet performance standards, are considered to be in compliance with filtration requirements.									
Organic Constituents - Disinfection Byproduct in VID Distribution System									
Total Trihalomethanes (TTHM)	ug/L	80	NS	Range	29.2 - 53.8			NS	Byproduct of drinking water chlorination
				Highest LRAA	40				
Haloacetic Acids (HAA5)	ug/L	60	NS	Range	9.5 - 25.0			NS	Byproduct of drinking water chlorination
				Highest LRAA	17				
Parameter	Units	Action Level	PHG (MCLG)	Distribution System 90th Percentile of 53 Samples	Number of Sites Exceeding Action Level		DLR	Typical Source/ Comments	
Inorganic Constituents - Copper/Lead in Residential Taps (Sampled in 2015)									
Copper (Cu)	mg/L	1.3	0.3	0.55	0		0.05	Corrosion of household plumbing systems; erosion of natural deposits	
Lead (Pb)	ug/L	15	0.2	ND	0		5	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits	

TERMS USED IN THIS REPORT

Detection Limit for Reporting (DLR): A detected contaminant is any contaminant detected at or above its detection level for purposes of reporting.

Locational Running Annual Average (LRAA): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

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 (USEPA).

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.

Nephelometric Turbidity Units (NTU): Turbidity is a measure of the cloudiness of the water. It is a good indicator of the effectiveness of the water treatment process and distribution system.

Primary Drinking Water Standards (PDWS): MCLs 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 which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Regulatory Action Level (AL) / Notification Level (NL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

>: More than

<: Less than

mg/L: Milligrams per liter or parts per million (ppm)

NA: Not Applicable

NC: Not Collected

ND: Not Detectable at testing limit

NR: Not Reported

NS: No Standard

pCi/L: Picocuries per liter (a measure of radiation)

ug/L: Micrograms per liter or parts per billion (ppb)

umho/cm: Micromho per centimeter; measurement of conductivity

FREQUENTLY ASKED QUESTIONS

Q. What affects the taste of my water?

A. The taste of drinking water is affected by its mineral content as well as the presence of chlorine, which is used to protect against potential bacterial contamination. Sometimes plumbing can cause a metallic flavor, especially if the water has been sitting in pipes for many hours. Taste, however, does not indicate a higher or lower degree of water quality.

Q. What causes bad odors?

A. Musty or fishy odors can be caused by harmless algae in the water, especially during the hot summer months. Even after chlorine has been added to disinfect the water, these odors may persist. Also, many people mistakenly confuse odors from their sink drain with the smell of their tap water. Check for tap water odors by filling a glass with fresh tap water and smelling it away from the sink.

Q. What causes cloudy water?

A. Cloudy or milky-looking water is usually caused by trapped air picked up from an air pocket in the water main or internal plumbing. Unusual surges or flows within the aqueduct can also trap air, similar to a waterfall. If the water is allowed to sit in a glass or pitcher for a few minutes, the air will dissipate and the water will become clear.

Q. What is Cryptosporidium?

A. Cryptosporidium (pronounced “krip-toe-spore-id-ee-um”) is a protozoan parasite found in lakes and rivers typically when these waters contain animal or sewage waste. Cryptosporidium was not detected in any samples of VID’s treated water supply.

Q. Should I boil my water?

A. On very rare occasions, the local health department or your water utility may issue a notice to boil your water. This may happen when there is an earthquake or other emergency. Otherwise, unless you have a severely weakened immune system or your doctor advises you, you do not need to boil your tap water. It already meets strict state and federal regulations for quality.

Q. What causes hardness in water?

A. A water’s “hardness” is a measure of the amount of certain minerals that are dissolved in the water. Depending on varying sources and system flows, the hardness of our water ranged from 39.5 - 320 mg/L in 2015. These values translate to 2.3 - 18.7 grains per gallon (gpg). These numbers may be of interest because some household appliances (such as dishwashers or water treatment devices) have settings that need to be adjusted based on the hardness of the water.

The minerals in water may leave white spots on glasses, coffeepots, shower heads or shower doors. These spots are chiefly calcium deposits and are not harmful to health. Putting vinegar in a coffeepot and allowing it to sit overnight will usually remove the spots. Make sure to rinse well before using. There are also some store products you can use to avoid spotting when glasses are washed and allowed to dry.

WHERE CAN I GET MORE INFORMATION?



San Diego County Water Authority

(858) 522-6600
www.sdcwa.org

Metropolitan Water District of Southern California

(213) 217-6000
www.mwdh2o.com

State Water Resources Control Board

Division of Drinking Water Programs
(619) 525-4159 – Southern California
Drinking Water Field Operations Branch
www.swrcb.ca.gov/drinking_water/programs/index.shtml

U.S. Environmental Protection Agency

Office of Ground Water & Drinking Water
(800) 426-4791
www.epa.gov/ground-water-and-drinking-water



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www.vistawater.org

District's office hours:
Monday through Friday
8:00 a.m. - 5:00 p.m.

The Vista Irrigation District's board meetings are normally held the first and third Wednesdays of each month at 8:30 a.m. at VID's facilities located at 1391 Engineer Street in Vista.

UPDATE YOUR EMERGENCY CONTACT INFO WITH US

Please take a moment and provide us with a telephone number (or telephone numbers) where you can be reached in case of an emergency. Having updated information allows us to contact you quicker during a situation that affects your water supply. You can update your emergency contact number(s) by emailing or calling Customer Service at (760) 597-3120. When providing your updated telephone number(s) via email, please include your name and address or account number. Feel free to give us your work, home and cell phone numbers. Thank you for helping us keep you informed.

The Vista Irrigation District, a public agency, has been proudly serving the city of Vista and portions of San Marcos, Escondido, Oceanside and San Diego County since 1923.