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Annual Water Quality Report



Helix
WATER DISTRICT

Setting standards of excellence in public service

Your water quality

We are pleased to present our Water Quality Report, also known as our Consumer Confidence Report. Last year, as in years past, your tap water met all U.S. Environmental Protection Agency and state drinking water health standards. Helix Water District vigilantly safeguards its water supplies and once again we are proud to report that our system has never violated a primary maximum contaminant level. This brochure is a summary of last year's water quality. Included are details about where your water comes from, what it contains and how it compares to state and federal standards.

This report follows the State Water Resources Control Board, Division of Drinking Water, guidance for CCRs dated Jan. 6, 2017. It is our intent to provide this report to all of our



consumers. Additional copies may be obtained by calling (619) 466-0585. If you have any questions or concerns regarding this Water Quality Report, please contact Helix's senior chemist at (619) 667-6248.

Este informe contiene información muy importante sobre su agua de beber. Si usted desea una traducción de este reporte en Español, por favor llame al (619) 466-0585.

Educational information

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, or by visiting USEPA's website at:

<https://www.epa.gov/dwstandardsregulations>

Some people may be more vulnerable to contaminants 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 healthcare providers. USEPA/Centers for Disease Control 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.

For info about fluoridation, oral health and current issues, please visit the State Water Resources Control Board's website: www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml



Lake Jennings.

photo: Dan Palmer

Sources of your water

High-quality water at your tap begins with high-quality source water into our treatment plant. Our water originates from the Colorado River and Northern California rivers, plus local sources, such as Lake Jennings, Lake Cuyamaca and El Capitan Reservoir. Over 99 percent of your water was treated at Helix Water District's R.M. Levy Water Treatment Plant in Lakeside. Less than 1 percent of your water came from a treated water source from the San Diego County Water Authority. This water came from the same source but was treated at another treatment plant.

The Lake Jennings Watershed Sanitary Survey is periodically updated in accordance with state regulations. The most recent update was March 2016. The purpose of such surveys is to assess the watershed to determine the existence and potential hazards of contamination sources that could reach the public water supply.

The water quality of Lake Jennings is considered vulnerable to: wastewater, recreation, development, equestrian properties and pesticide/herbicide use. Through water quality monitoring and management of activities in and around the lake, along with community involvement, Helix Water District is able to minimize the risk of these potential sources of contamination. Lake Jennings serves as a recreational area to the public and activities that may affect water quality are closely monitored.

As always, we welcome public participation and comments on the Lake Jennings Watershed Sanitary Survey Update during our regularly scheduled board meetings. You may request a summary of the assessment by contacting Helix's senior chemist at (619) 667-6248.



Help protect your water

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

Eliminate excess use of lawn and garden fertilizers and pesticides – they contain hazardous chemicals that can reach your drinking water source.

Pick up after your pets.

If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public sewer system.

Dispose of chemicals properly; take used motor oil to a recycling center.

Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use the U.S. Environmental Protection Agency's "Adopt Your Watershed" program (www.epa.gov/owow_keep/adopt/) to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.

Organize a storm drain stenciling project with your local government or water supplier. Stencil a message next to the street drain: "Dump No Waste – Drains to River" or "Protect Your Water." Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

Conservation — a permanent way of life

Helix customers have been conserving water for decades; in 2016, after four consecutive years of drought, average customer water use dropped to an all-time low of 88 gallons per person per day. This historic drought underscored the need to continue making the most of every drop to help maintain our region's water supplies in future dry years. Thankfully, saving water is easier than you might think. Small changes can make a big difference—try one today and make water efficiency a permanent way of life.

- Take short showers: a five-minute shower uses seven to 10 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair or shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They are inexpensive, easy to install and can save the average family up to 240 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaking toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered.



The Water Conservation Garden in El Cajon.

photos: Ted Salois

Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.

- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit www.epa.gov/watersense for more information.

More than half of Southern California's water is used for irrigation. Visit the Water Conservation Garden in El Cajon (www.thegarden.org) to learn ways to save through low-water-use landscaping.

The following statements do not necessarily apply to Helix Water District, but are included as mandatory language required by the State Water Resources Control Board for all California water utilities preparing a similar report. Again, Helix Water District met all U.S. Environmental Protection Agency and California state drinking water standards.

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.

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 the result of oil and gas production and mining activities.

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

Definitions

- **Disinfection Byproduct (DBP):** DBPs are formed when disinfectants (chlorine, chloramines, ozone or others) react with organic and inorganic compounds naturally occurring in the water.
- **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 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.
- **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.
- **Regulatory Notification Level (NL):** 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.

Helix Water District summary of water quality results for 2016

Primary Drinking Water Standards (h)

<u>Treatment Plant Effluent</u>	State MCL	PHG / (MCLG) [MRDLG]	Helix Plant Range	Helix Plant Average	Major Sources
Clarity					
Highest Filter Effluent Turbidity (a)	TT = 0.3	NS	n/a	0.04	Soil runoff
Percentage of samples meeting turbidity limits (a)	95%	% < 0.3 NTU	n/a	100%	
Inorganic Chemicals					
Aluminum (ppb) (d)	1,000	600	130 - 380	239	Water treatment process residue; erosion of natural deposits
Arsenic (ppb)	10	0.004	ND - 2.5	ND	Erosion of natural deposits
Fluoride, treatment-related (ppm) (e)	2	1	0.6 - 0.7	0.7	Water additive and natural deposits
Radionuclides (pCi/L)					
Gross Alpha	15	0	6.96	single sample	Erosion of natural deposits
Uranium	20	0.43	ND - 1	1	Erosion of natural deposits
Distribution System					
Microbiological			Maximum		
Total Coliform Bacteria (b) State Total Coliform Rule (% positive samples per month)	5.0%	(0%)	0%	0%	Naturally present in the environment
Fecal Coliform & <i>E. coli</i> (State Total Coliform Rule)	(c)	(0%)	0%	0%	Human and animal fecal waste
Total Coliform Bacteria (h) (Federal Revised Total Coliform Rule (% positive samples per month)	TT = 5.0%	(0%)	0%	0%	Naturally present in the environment
<i>E. coli</i> (Federal Revised Total Coliform Rule)	(c)	(0%)	0%	0%	Human and animal fecal waste
Disinfection ByProducts (DBPs), Disinfection Residuals, and DBP Precursors (Federal)					
Total Trihalomethanes (ppb)	80	n/a	19.8 - 39.0	27.1	Byproduct of drinking water chlorination
Haloacetic Acids 5 (ppb)	60	n/a	3.3 - 7.9	6.3	Byproduct of drinking water chlorination
Chloramines as Cl ₂ (ppm)	[4.0]	[4.0]	0.2 - 3.4	2.3	Drinking water disinfectant added for treatment
Total Organic Carbon (ppm)	TT	n/a	2.1 - 4.8	2.7	Natural and man-made sources

Secondary Drinking Water Standards – Aesthetic Standards

Parameter	State MCL	PHG	Helix Plant Range	Helix Plant Average	Major Sources
Aluminum (ppb) (d)	200	600	130 - 380	239	Water treatment process residue; erosion of natural deposits
Chloride (ppm)	500	n/a	98 - 100	99	Runoff or leaching from natural deposits; seawater influence
Color (ACU)	15	n/a	1	1	Naturally occurring organic materials
Odor Threshold (TON)	3	n/a	ND - 2	ND	Naturally occurring material and/or algae blooms
Specific Conductance (µs/cm)	1,600	n/a	1,000	1,000	Runoff or leaching from natural deposits
Sulfate (ppm)	500	n/a	230 - 250	240	Runoff or leaching from natural deposits; industrial waste
Total Dissolved Solids (ppm)	1,000	n/a	610 - 670	648	Runoff or leaching from natural deposits

Helix Water District summary of water quality results for 2016

Additional Parameters

Parameter	State MCL	PHG / (MCLG)	Helix Plant	
			Range	Average
Alkalinity (ppm as CaCO ₃)	n/a	n/a	106 - 140	124
Calcium (ppm)	n/a	n/a	59 - 73	68
Hardness (ppm as CaCO ₃)	n/a	n/a	290	290
Hardness (grains per gallon)	n/a	n/a	17	17
Magnesium (ppm)	n/a	n/a	22 - 26	25
Perchlorate (ppb)	6	1	ND	ND
pH	n/a	n/a	7.7 - 8.5	8.0
Potassium (ppm)	n/a	n/a	4.4 - 4.9	4.7
Sodium (ppm)	n/a	n/a	92 - 100	97



photo: Kawther Fadhl

Unregulated Chemicals Requiring Monitoring (g)

Parameter	State MCL	PHG / (MCLG)	Helix Plant	
			Range	Average
Bromochloromethane (ppb)	n/a	n/a	ND - 0.078	ND
Chlorate (ppb)	NL = 800	n/a	ND - 26	ND
Molybdenum (ppb)	n/a	n/a	2.9 - 4.3	3.8
Strontium (pCi/L)	8	0.35	0.38 - 0.74	0.58
Vanadium (ppb)	NL = 50	n/a	ND	ND

Major Sources

- Fire extinguishing agent
- Disinfection byproduct
- Potential disinfection byproduct, naturally occurring
- Naturally occurring
- Industrial discharge; naturally occurring

see abbreviations & footnotes on pages 16 & 17

Lead and Copper Rule

The Lead and Copper Rule is a USEPA-mandated rule that became effective in 1992. This rule requires treatment when the lead concentration in drinking water exceeds the lead action level of 15 ppb or the copper concentration exceeds an action level of 1.3 ppm in more than 10 percent of taps sampled, i.e. the 90th percentile. If present, elevated levels of lead can cause serious health problems ranging from stomach distress to brain damage. It is especially of concern for pregnant women and young children.

Lead enters drinking water mainly from the corrosion of lead-containing household plumbing. In the recent case of Flint, Michigan, lead service lines between the water mains in the street and the home were the principal source of lead contamination. Helix Water District does not have lead service lines within its distribution system. Also, Helix Water District treats the water so that it is not corrosive toward household plumbing.

In 2015, 57 customers provided samples from their taps to Helix Water District for lead and copper analysis. The results of these tests are presented here.

When your water has been sitting for several hours, the potential for lead exposure can be minimized by flushing the tap for thirty 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 1-800-426-4791 or at <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>. Drinktap.org is also a useful resource.

Lead and Copper Rule Results

90th percentile of all samples collected = ND for lead
= ND ppb for copper

Number of sample sites = 57 homes

Number of sites that exceeded Action Level for copper or lead = 0

Most recent sampling: June 2015

Next sampling due: June 2018

Abbreviations

AL:	Regulatory Action Level
CFU:	Colony-Forming Units
DBP:	Disinfection ByProducts
DDW:	Division of Drinking Water
DLR:	Detection Limit for Reporting purposes
LRAA:	Locational Running Annual Average
MCL:	Maximum Contaminant Level
MCLG:	Maximum Contaminant Level Goal
MRDL:	Maximum Residual Disinfectant Level
MRDLG:	Maximum Residual Disinfectant Level Goal
n/a:	not applicable
ND:	Not Detected
NL:	Notification Level
NS:	No Standard
NTU:	Nephelometric Turbidity Units
pCi/L:	picoCuries per liter
PHG:	Public Health Goal
ppb:	parts per billion, or micrograms per liter ($\mu\text{g/L}$)
ppm:	parts per million, or milligrams per liter (mg/L)
ppt:	parts per trillion, or nanograms per liter (ng/L)
RAA:	Running Annual Average
Stage 2 D/DBPR:	Stage 2 Disinfectants and Disinfection Byproducts Rule
SWRCB:	State Water Resources Control Board
TOC:	Total Organic Carbon
TON:	Threshold Odor Number
TT:	Treatment Technique
UCMR3:	Unregulated Contaminant Monitoring Rule 3
$\mu\text{s/cm}$:	microSiemens per centimeter

Footnotes

(a) Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our treatment process.

(b) Total coliform MCLs: No more than 5 percent of the monthly samples may be total coliform positive. 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.(d) Aluminum has both primary and secondary standards.

(d) Aluminum has both primary and secondary standards.

(e) In compliance with all provisions of the state's fluoridation system requirements.

(f) Unregulated contaminant monitoring helps U.S. Environmental Protection Agency and the State Water Resources Control Board determine where certain contaminants occur and whether the contaminants need to be regulated. UCMR3 monitoring occurred for four quarters in 2014. UCMR3 monitoring occurred in 2014

(g) Over 100 parameters are monitored. Primary Drinking Water Standards monitored but not detected are not listed on the table.

(h) Total coliform TT: No more than 5 percent of the monthly samples may be total coliform positive. The TT was not violated.



photo: Jesse Stone

About your reservoir

Lake Jennings is a water supply with recreational uses, including fishing, camping, hiking and picnicking activities. Lake Jennings is typically open Friday through Sunday for fishing and boating on the entire lake and shoreline. For those that wish to fish midweek, fishing is limited to the area adjacent to the campground shoreline. Lake Jennings is stocked with trout weekly or biweekly between November and early April and with catfish during the summer months.

The Lake Jennings Campground is open seven days a week, year-round and features 97 campsites. Located on the lake's north side, the campground has spaces for RVs, trailers, campers and tents as well as rental teepees. For more information on Lake Jennings or to make camping reservations, please visit www.lakejennings.org or call (619) 390-1623.

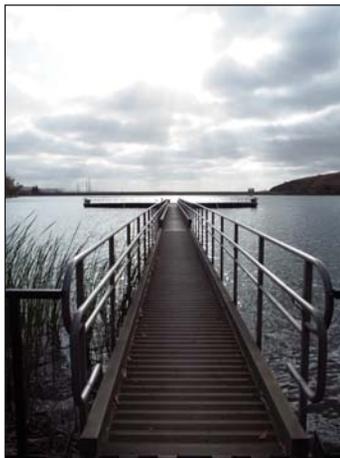


photo: Pat Rendon

? For more information

If you have any questions or concerns regarding this Water Quality Report, please contact:

Helix's senior chemist, Cindy Ziernicki

(619) 667-6248 or helix@helixwater.org

Public participation is welcome at district board meetings. The board meets the first and third Wednesday of each month at 6 p.m., the fourth Wednesday at 3 p.m.

Helix Water District Administration Office

7811 University Ave., La Mesa, CA 91942

(619) 466-0585

Helix Water District Additional Information

Water Quality (619) 443-1031

24-Hour Water Emergencies (619) 466-3234

For additional information about Helix Water District, visit our website: www.hwd.com



photo: Kurt Scherbaum



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