

Photo: Rand Al Urfali

Annual Water Quality Report

Published June 2013



Helix Water District

Setting standards of excellence in public service

Your water quality

We are pleased to send you our Water Quality Report, also known as Consumer Confidence Report (CCR). Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (USEPA) 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 California Department of Public Health Guidance for CCR dated January 18, 2013. It is our intent to provide this report to all of our consumers. Additional copies may be obtained by calling (619) 443-1031. If you have any questions or concerns regarding this Water Quality Report, please contact Helix's senior chemist at (619) 667-6248.



Simplicity of Water, by Ryan Ball, was an entry in the District's 2013 high school photo contest.

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: <http://water.epa.gov/drink/standards/hascience.cfm>.

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 (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline: 1-800-426-4791.

For information about fluoridation, oral health, and current issues, please visit the California Department of Public Health's website: www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx.

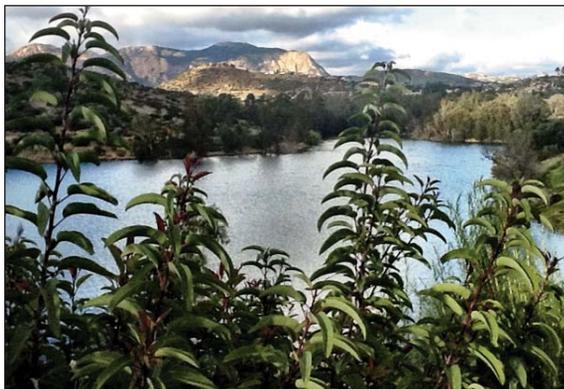
Learn to conserve

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.

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. Eighteen percent of our water was from local sources, such as Lake Jennings, Lake Cuyamaca, and El Capitan Reservoir. One-hundred percent of our water was treated locally at Helix Water District's R.M. Levy Water Treatment Plant in Lakeside, CA.

A Lake Jennings Sanitary Survey was updated in February 2011. 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



El Cap, by Jayden Dereld, was a winner in the District's recent Month-of-March Lake Jennings Photo Contest.

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 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.



This *Untitled* image by Brianna Fischbeck was an entry in the District's high school photo contest in 2013.

The following statements do not necessarily apply to Helix Water District, but are included as mandatory language required by the California Department of Public Health for all California water utilities preparing a similar report. Again, Helix Water District met all USEPA 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 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 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 California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that 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 2012

Primary Drinking Water Standards

<u>Treatment Plant Effluent</u> Clarity	State MCL	PHG / (MCLG) [MRDLG]	Helix Plant Range	Average	Major Sources
Highest Filter Effluent Turbidity (NTU) (a)	TT=1.0	NS	n/a	0.16	Soil runoff
Percentage of samples meeting turbidity limits	TT	NS	%<0.3 NTU	100%	
Inorganic Chemicals					
Aluminum (ppb) (d)	1000	600	130 - 260	165	Water treatment process residue; erosion of natural deposits
Fluoride, treatment-related (ppm) (e)	2	1	0.7 - 0.9	0.8	Water additive and natural deposits
Radionuclides (pCi/L)					
Gross Alpha	15	0	ND - 4.5	ND	Erosion of natural deposits
Uranium	20	0.43	ND - 1	1	Erosion of natural deposits
<u>Distribution System</u>					
Microbiological					
Total Coliform Bacteria (b) (% positive samples per month)	5.0%	(0)	0%	0%	Naturally present in the environment
Fecal Coliform & E. coli	(c)	0%	0%	0%	Human and animal fecal waste
Disinfection By-Products (DBPs), Disinfection Residuals, and DBP Precursors (Federal)					
Total Trihalomethanes (ppb) (f)	80	n/a	20 - 51	42.7	By-product of drinking water chlorination
Haloacetic Acids 5 (ppb) (f)	60	n/a	4.2 - 8.3	10.1	By-product of drinking water chlorination
Chloramines as Cl ₂ (ppm)	[4.0]	[4.0]	0.2 - 3.3	1.9	Drinking water disinfectant added for treatment
Total Organic Carbon (ppm)	TT	n/a	1.7 - 3.3	2.3	Natural and man-made sources

Secondary Drinking Water Standards – Aesthetic Standards

Parameter	State MCL	PHG	Helix Plant		Major Sources
			Range	Average	
Aluminum (ppb) (d)	200	600	130 - 260	165	Surface water treatment process residue; natural deposits erosion
Chloride (ppm)	500	n/a	75 - 95	87	Runoff/leaching from natural deposits; seawater influence
Color (ACU)	15	n/a	1	1	Naturally occurring organic materials
Odor Threshold (TON)	3	n/a	1 - 2	1	Naturally occurring material and/or algae blooms
Specific Conductance (µs/cm)	1600	n/a	510 - 840	713	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	n/a	130 - 180	160	Runoff/leaching from natural deposits; industrial waste
Total Dissolved Solids (ppm)	1000	n/a	320 - 410	365	Runoff/leaching from natural deposits; seawater influence

* see abbreviations & footnotes on pages 12 & 13

Helix Water District summary of water quality results for 2012

Additional Parameters

Parameter	State MCL	PHG / (MCLG)	Helix Plant	
			Range	Average
Alkalinity (ppm as CaCO ₃)	n/a	n/a	94 -160	120
Calcium (ppm)	n/a	n/a	47 - 54	51
Hardness (ppm as CaCO ₃)	n/a	n/a	200 - 240	220
Hardness (grains per gallon)	n/a	n/a	12 - 14	13
Magnesium (ppm)	n/a	n/a	19 - 24	22
pH	n/a	n/a	8.1 - 8.4	8.2
Potassium (ppm)	n/a	n/a	3.8 - 4.6	4.3
Sodium (ppm)	n/a	n/a	70 - 86	78



Mystic Plants, by Brittlyn Metvier, was a winner in the District's annual high school photo contest.

Unregulated Chemicals Requiring Monitoring (g)

Parameter	State MCL	PHG / (NL)	Helix Plant	
			Range	Average
Boron (ppb)	n/a	(1000)	0.14	single sample
Chromium VI (ppb)	n/a	0.02	ND	ND
N- Nitrosodimethylamine (NDMA) (ppt)(g)	NL=10 ppt	3	ND - 4	ND
Vanadium (ppb)	n/a	(50)	3.2 - 3.4	3.3

Major Sources

Runoff/leaching from natural deposits; industrial wastes
 Industrial waste discharge; could be naturally present as well
 Potential disinfection by-product
 Naturally occurring; industrial waste discharge

* see abbreviations & footnotes on pages 12 & 13

Lead and Copper Rule

The Lead and Copper Rule is a USEPA mandated rule that became effective on December 7, 1992. This rule requires treatment when lead and/or copper in drinking water exceeds certain levels. Lead enters drinking water mainly from the corrosion of lead-containing household plumbing. Since lead or copper contamination generally occurs after water has left the distribution system, the best way to check if consumer water is contaminated is to test water from a household faucet. Monitoring is required every three years. Lead and copper are not a problem in our distribution system, based on past results. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children.

When your water has been sitting for several hours, the potential for lead exposure can be minimized by flushing the 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://water.epa.gov/drink/info/lead/index.cfm>

Lead and Copper Rule Results

90th percentile of all samples collected = ND for lead
 = ND ppb for copper
 Number of sample sites = 57 homes
 Most recent sampling: June 2012
 Next sampling due: June 2015

Abbreviations

AL:	Action Level
CDPH:	California Department of Public Health
CFU:	Colony-Forming Units
DBP:	Disinfection By-Products
DLR:	Detection Limit for Reporting purposes
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; Detection Limits for Reporting purposes (DLRs) available upon request
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)
ppq:	parts per quadrillion or picograms per liter (pg/L)
ppt:	parts per trillion or nanograms per liter (ng/L)
RAA:	Running Annual Average
TOC:	Total Organic Carbon
TON:	Threshold Odor Number
TT:	Treatment Technique
$\mu\text{s/cm}$:	microsiemens per centimeter



Two Worlds. by Jessie Leutticke, was a winner in the District's high school photo contest in 2013.

Footnotes

- (a) The turbidity level of the filtered water shall be less than or equal to 0.3 NTU in 95% of measurements taken each month and shall not exceed 1 NTU at any time.
- (b) Total coliform MCLs: No more than 5% 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.
- (e) Helix plant was in compliance with all provisions of the State's Fluoridation System Requirements.
- (f) Stage 1 DBP monitoring ended the first quarter of 2012 and Stage 2 DBP monitoring began in the second quarter of 2012. The range listed is for results of all samples taken in 2012, and the system-wide RAA was reported from the first quarter Stage 1 D/DBPR monitoring in the "average" column.
- (g) NDMA data collected from February 2009 to August 2009. Values listed in State DLR column are federal minimum reporting levels.



Pink Rain, by Janett Carreno, was an entry in the District's annual high school photo contest.

Lake Jennings

Lake Jennings is a water supply with recreational uses, including fishing, camping, hiking, and picnicking activities. The lake is open to the general public for fishing three days a week on Fridays, Saturdays, and Sundays. The campground is open seven days a week. Fishing is available to registered campers when the lake is closed, limited to the shoreline area immediately adjacent to the campground facility.

The 96-space Lake Jennings Campground is open year-round for campers. Located on the lake's north side, the campground has spaces for RVs, trailers, campers, and tents. Camping reservations must be made through the Internet at www.lakejennings.org. Please call (619) 390-1623, if you have questions.



Reflections on the Lake, by Jan Taylor, was a winner in the District's recent Month-of-March Lake Jennings Photo Contest.

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

Helix's Senior Chemist, Cindy Bamfield

(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 2 p.m.

Helix Water District

7811 University Ave., La Mesa, CA 91942

(619) 466-0585

Helix Water District Offices

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



Boat Dock, by Keith Dereld, was a winner in the District's recent Month-of-March Lake Jennings Photo Contest.



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