

Annual Water Quality Report



Helix Water District

Setting standards of excellence in public service

Published June 2009

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 1, 2009. 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.



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.

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 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 from the Safe Drinking Water Hotline: 1-800-426-4791.

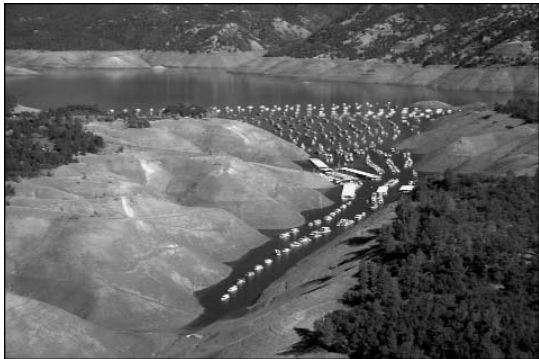
Learn to conserve

Visit the Water Conservation Garden at 12122 Cuyamaca College Drive West, El Cajon, to find ways to save through low-water-use landscaping. More than half of Southern California's water is used for outdoor irrigation, so conservation of irrigation water is extremely important.

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. Ninety percent of our water is treated locally at Helix Water District's R.M. Levy Water Treatment Plant in Lakeside, CA. Less than half of a percent of Helix Water District's supply was treated by Metropolitan Water District at the Lake Skinner Treatment Plant or the San Diego County Water Authority's Twin Oaks Water Treatment Plant. In our tables on the following pages, we list information on water quality from the plants.

A Watershed and Sanitary Survey is performed every five years on Helix Water District sources. The



Lake Oroville shows signs of severe drought.

purpose is to survey and assess the watershed to determine the existence and potential hazards of contamination sources that could reach the public water supply. An assessment called a Sanitary Survey Update of the Lake Jennings drinking water source for Helix Water District was completed in January 2006.

Lake Jennings serves as a recreational area to the public, and we closely monitor activities that may affect water quality. We prohibit swimming and make provisions to ensure rental boats don't cause water contamination.

The water quality of Lake Jennings is considered vulnerable to inert water treatment plant solids return, recreational activities on Lake Jennings, and the effects of the 2003 Cedar Fire. The return of treatment plant solids to Lake Jennings also has benefits, including algae control and removal of particulate matter. Our source water monitoring program ensures that sources of contamination are minimized. We have active community involvement in protecting our source. As always, we welcome public participation and comments on our Watershed and Sanitary Survey during our regularly scheduled Board meetings. You may request a summary of the assessment by contacting Helix's senior chemist at (619) 667-6248.

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 EPA 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, U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department 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 U.S. Environmental Protection Agency.
- **Maximum Residual Disinfectant Level (MRDL):** The level of disinfectant added for water treatment that may not be exceeded at the consumer's tap.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.
- **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 2008

Primary Drinking Water Standards

<u>Treatment Plant Effluent Clarity</u>	State MCL	PHG / (MCLG) [MRDLG]	Helix Range	Plant Average	Twin Oaks/Skiner Plants Range	Twin Oaks/Skiner Plants Average	Major Sources
Highest Filter Effluent Turbidity (NTU) (a)	0.3	NS	n/a	0.08	n/a	0.08	Soil Runoff
Lowest monthly percentage of samples meeting the turbidity limits	95%	Highest % <0.3	n/a	100%	n/a	100%	
Inorganic Chemicals							
Aluminum (ppb) (b)	1000	600	120 - 300	188	ND - 28	ND	Water treatment process residue; erosion of natural deposits
Arsenic	10	0.004	ND - 2.1	ND	ND	ND	
Barium (ppb)	1000	2000	ND - 110	103	ND - 115	104	Erosion of natural deposits
		Control Range 0.7 - 1.3 ppm;		Optimal Level 0.8 ppm for all plants			
Fluoride, treatment-related (ppm) (c)	2.0	1	0.4 - 1.0	0.9	0.7 - 1.0	0.8	Water additive
Nitrate (as N) (ppm)	10	10	ND	ND	ND - 0.5	ND	Fertilizer runoff; sewage; erosion
Radionuclides (pCi/L) (d) (j)							
Gross Alpha	15	(0)	3.2 - 5.4	4.6	ND - 4.3	1.8	Erosion of natural deposits
Uranium	20	0.43	1.6 - 4.6	3.1	1.9 - 2.7	2.2	Erosion of natural deposits
Distribution System							
Microbiological (e)							
Total Coliform Bacteria (d) (% positive samples per month)	5.0%	(0)	Maximum 0.0%	0%	Maximum 0.8%	0.19%	Naturally present in the environment
Fecal Coliform & E. coli (f)	(e)	0%	0%	0%	0%	0%	Human and animal fecal waste
Disinfection By-Products (DBPs), Disinfection Residuals, and DBP Precursors (Federal)							
Total Trihalomethanes (ppb) (g)	80	n/a	20 - 48	39	n/a	n/a	By-product of drinking water chlorination
Haloacetic Acids 5 (ppb) (g)	60	n/a	0 - 5.9	1.8	n/a	n/a	By-product of drinking water chlorination
Chloramines as Cl ₂ (ppm)	[4.0]	[4.0]	0.1 - 3.0	1.8	n/a	n/a	Drinking water disinfectant added for treatment
Bromate (ppb)(l)	10	(0)	ND	ND	ND - 35	ND	By-product of ozonation
Control of DBP precursors (TOC)	TT	n/a	2.0 - 2.9	2.1	1.9 - 2.7	2.3	Natural and man-made sources

Abbreviations

MCL:	Maximum Contaminant Level	NTU:	Nephelometric Turbidity Units
MCLG:	Maximum Contaminant Level Goal	pCi/L:	picoCuries per liter (measure of radioactivity)
MRDL:	Maximum Residual Disinfectant Level	PHG:	Public Health Goal
MRDLG:	Maximum Residual Disinfectant Level Goal	ppb:	parts per billion, or micrograms per liter
n/a:	not applicable	ppm:	parts per million, or milligrams per liter
ND:	Not detected; Detection Limits for purposes of Reporting (DLRs) available upon request	TOC:	Total Organic Carbon
NS:	No Standard	TT:	Treatment Technique

Footnotes

- The turbidity level of the filtered water shall be less than or equal to 0.3 NTU in 95% of measurements taken each month. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
- Aluminum has both a primary and secondary standard.
- MWD, Twin Oaks Treatment Plant, and Helix's R.M. Levy Water Treatment Plant were in compliance with all provisions of the state's fluoridation system requirements.
- Results are for the 2005/06 radiological monitoring program at Skinner Plant and for 2005 monitoring at R.M. Levy Water Treatment Plant.
- Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform positive.
- Fecal coliform/E. coli MCLs: The occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/E. coli, constitutes an acute MCL violation. The MCL was not violated in 2008.
- Calculated from a running annual average of Helix distribution system samples.

Helix Water District summary of water quality results for 2008

Secondary Drinking Water Standards – Aesthetic Standards

Parameter	State MCL	PHG	Helix Plant		Twin Oaks/Skinner Plants		Major Sources
			Range	Average	Range	Average	
Aluminum (ppb) (b)	200	600	120 - 300	188	ND	ND	Surface water treatment process residue; natural deposits erosion
Chloride (ppm)	500	n/a	87 - 92	89	92 - 99	96	Runoff/leaching from natural deposits; seawater influence
Color (CU)	15	n/a	1 - 2	1	ND - 2	1	Naturally occurring organic materials
Manganese (ppb)	50	NL=500	ND	ND	ND - 24	ND	Leaching from natural deposits
Specific Conductance (µs/cm)	1600	n/a	842 - 940	895	857 - 971	917	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	n/a	170 - 190	180	173 - 221	198	Runoff/leaching from natural deposits; industrial waste
Total Dissolved Solids (ppm)	1000	n/a	506 - 580	545	502 - 590	536	Runoff/leaching from natural deposits; seawater influence

Abbreviations

- AL: Action Level
- CU: Color Units
- MCL: Maximum Contaminant Level
- ND: Not detected
- ppb: parts per billion, or micrograms per liter
- ppm: parts per million, or milligrams per liter
- µs/cm: microsiemens per centimeter

Lead and Copper Rule Results

90th percentile of all samples collected = ND for lead
= 76 ppb for copper

Number of sample sites = 52 homes

Number of sites above AL of 15 ppb for lead = 0 sites

Number of sites above AL of 1,300 ppb for copper = 0 sites

Most recent sampling: June 2006

Next sampling due: September 2009

Lead and Copper Rule

The Lead and Copper Rule is an Environmental Protection Agency 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 and copper contamination generally occur 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. As you can see from the results at left, lead and copper are not a problem in our distribution system. 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. Helix Water District 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/safewater/lead>.

Helix Water District summary of water quality results for 2008

Additional Parameters

Parameter	State MCL	PHG / (MCLG)	Helix Plant		Twin Oaks/Skinner Plant	
			Range	Average	Range	Average
Alkalinity (ppm as CaCO ₃)	n/a	n/a	108 -130	122	94 - 120	113
Calcium (ppm)	n/a	n/a	57 - 61	59	52 - 67	60
Chlorate (ppb)	n/a	NL = 800	n/a	n/a	25 -350	177
Cryptosporidium (Oocysts/100L) (h)	TT	(0)	ND	ND	ND	ND
Hardness (ppm CaCO ₃)	n/a	n/a	237 - 260	249	222 - 273	249
Hardness (grains per gallon)	n/a	n/a	14 - 15	14.6	13 - 16	14.6
Magnesium (ppm)	n/a	n/a	23 - 26	24	21 - 27	24
Methyl tert-butyl ether (MTBE) (ppb)	13	13	ND	ND	ND	ND
pH	n/a	n/a	8.0 - 8.1	8.1	8.0 - 8.2	8.1
Potassium (ppm)	n/a	n/a	4.5 - 4.8	4.6	4.1 - 4.7	4.5
Sodium (ppm)	n/a	n/a	78 - 92	87	83 - 94	92

Unregulated Chemicals Requiring Monitoring (j) (k)

Parameter	State MCL	PHG / (NL)	Helix Plant		Skinner Plant		Major Sources
			Range	Average	Range	Average	
Boron (ppb)	n/a	(1000)	120 - 140	125	120 - 150	145	Runoff/leaching from natural deposits; industrial wastes
Chromium VI (ppb)	n/a	n/a	ND	ND	ND - 0.3	0.11	Industrial waste discharge; could be naturally present as well
N- Nitrosodimethylamine (NDMA) (ppt) (i)	NS	3	ND - 3.3	ND - 3.0	ND - 10	ND	Potential disinfection by-product
Vanadium (ppb)	n/a	(50)	3.7 - 5.2	4.5	ND	ND	Naturally occurring; industrial waste discharge

Footnotes continued

(h) In 2007, Cryptosporidium was ND at both Helix R.M. Levy Water Treatment Plant and Skinner Plant. Helix units are Oocysts/L.

(i) NDMA was not detected leaving the Helix treatment plant. It was detected, however, at reported levels at the maximum residence time in our distribution system.

(j) Unregulated contaminant monitoring helps EPA and the California Department of Public Health to determine where certain contaminants occur and whether the contaminants need to be regulated.

(k) The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

(l) Standard is based on running annual average (RAA) and was not violated.

Abbreviations

MCL:	Maximum Contaminant Level
MCLG:	Maximum Contaminant Level Goal
NL:	Regulatory Notification Level
n/a:	not applicable
NS:	No Standard
ND:	Not detected; Detection Limits for purposes of Reporting (DLRs) available upon request
PHG:	Public Health Goal
ppb:	parts per billion, or micrograms per liter
ppm:	parts per million, or milligrams per liter
ppt:	parts per trillion, or nanograms per liter
TT:	Treatment Technique

Water shortage influence on water quality

Q. Does the drought affect the taste of my water?

A. Yes, it does. Because of the water shortage in Northern California, along with issues regarding the Delta Smelt, our water supply from the State Project Water (SPW) in Northern California has been cut. Lately, all of Helix water is coming from the Colorado River and local sources. The mineral content from the Colorado River has a considerably higher salt content than SPW. What this amounts to is a 'harder' water delivered to our customers. This higher mineral content affects the taste and increases detergent and soap use. Some describe it as a mineral-tasting water; others even describe it as metallic in taste. However, the increased hardness in no way affects the health and safety of your water.

Q. Is there anything I can do to help improve the mineral-rich taste of my water?

A. Yes, the simplest step one can take is to refrigerate one's water. This helps improve the taste of hard water. Also, installing a reverse osmosis unit under the kitchen sink is effective at removing almost all the salts, including calcium and magnesium, which account for the higher hardness in water.

Q. With the drought in effect, is there anything I can do to help conserve my water?

A. Yes, check out the following websites for myriad water-saving tips: www.thegarden.org and www.bewaterwise.com



For more information

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

Helix's Senior Chemist

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

Public participation is welcome at our Board meetings, which are held at 2 p.m. on the first and third Wednesdays of every month at the following address:

Helix Water District

7811 University Ave., La Mesa, CA 91941
(619) 466-0585

Helix Water District Offices

Water Quality (619) 443-1031
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