

Annual Water Quality Report



Helix Water District

Setting standards of excellence in public service

Published June 2011

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, 2011. 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.



Lake Jennings is the District's reservoir. It has a 9,790 acre-foot capacity.

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 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. Ninety percent of our water is treated locally at Helix Water District's R.M. Levy Water Treatment Plant in Lakeside, CA. The remaining 10 percent was treated by Metropolitan Water District at the Lake Skinner Treatment Plant. In our tables on the following pages, we list information on water quality from the plants.

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,



Enjoying the "million-dollar" views at Lake Jennings.

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 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.



Lake Jennings reservoir helps the District store, treat, and deliver water to more than 260,000 people in La Mesa, El Cajon, Lemon Grove, and parts of Spring Valley and Lakeside.

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, 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 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 2010

Primary Drinking Water Standards

| <u>Treatment Plant Effluent</u> | State MCL | PHG / (MCLG) [MRDLG] | Helix Range | Plant Average | Twin Oaks/Skinner Plants (i) Range | Twin Oaks/Skinner Plants (i) Average | Major Sources |
|--|-----------|----------------------|---------------|---------------|------------------------------------|--------------------------------------|--|
| Clarity | | | | | | | |
| Highest Filter Effluent Turbidity (NTU) (a) | 0.3 | NS | n/a | 0.08 | n/a | 0.01 / 0.6 | Soil Runoff |
| Lowest monthly percentage of samples meeting the turbidity limits | 95% | Highest % <0.3 NTU | n/a | 100% | n/a | 100% | |
| Inorganic Chemicals | | | | | | | |
| Aluminum (ppb) (b) | 1000 | 600 | 110 - 220 | 163 | ND | ND | Water treatment process residue; erosion of natural deposits |
| Arsenic (ppb) | 10 | 0.004 | ND - 2.2 | ND | ND | ND | Erosion of natural deposits |
| Barium (ppb) | 1000 | 2000 | ND - 120 | ND | ND - 120 | ND | Erosion of natural deposits |
| Fluoride, treatment-related (ppm) (c) | 2 | 1 | 0.7 - 0.8 | 0.8 | 0.6 - 1 | 0.8 | Water additive |
| Radionuclides (pCi/L) (d) | | | | | | | |
| Gross Alpha | 15 | 0 | 3.2 - 5.4 | 4.6 | ND - 4.3 | ND | Erosion of natural deposits |
| Uranium | 20 | 0.43 | 1.6 - 4.6 | 3.1 | 2.3 - 4.1 | 2.9 | Erosion of natural deposits |
| Distribution System | | | | | | | |
| Microbiological (e) | | | | | | | |
| Total Coliform Bacteria (e) (% positive samples per month) | 5.0% | (0) | Maximum 0.60% | 0% | Maximum 0% | 0% | Naturally present in the environment |
| Fecal Coliform & E. coli (f) | (f) | 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 | 11.0 - 55 | 37 | n/a | n/a | By-product of drinking water chlorination |
| Haloacetic Acids 5 (ppb) (g) | 60 | n/a | ND - 18.6 | 7.1 | 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) | 10 | (0) | ND - 5 | ND | ND - 6.1 | ND | Byproduct of ozonation |
| Total Organic Carbon (ppm) | TT | n/a | 2.1 - 3.4 | 2.5 | 1.8 - 2.4 | 2.2 | 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) |
| MRDLG: Maximum Residual Disinfectant Level Goal | PHG: Public Health Goal |
| n/a: not applicable | ppb: parts per billion, or micrograms per liter |
| ND: Not Detected; Detection Limits for purposes of Reporting (DLRs) available upon request | ppm: parts per million, or milligrams per liter |
| NS: No Standard | TT: Treatment Technique |

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. Turbidity is a measure of the cloudiness of the water. Helix monitors it because it is a good indicator of the effectiveness of our filtration system.
- (b) Aluminum has both a primary and secondary standard.
- (c) All provisions of the state's fluoridation system requirements were met.
- (d) Data collected triennially from four consecutive quarters of monitoring in 2009 at Helix plant; 2008 at Skinner plant.
- (e) Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform positive.
- (f) 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 2010.
- (g) Calculated from a running annual average of Helix distribution system samples.

Helix Water District summary of water quality results for 2010

Secondary Drinking Water Standards – Aesthetic Standards

| Parameter | State MCL | PHG | Helix Plant | | Twin Oaks/Skinner Plants (i) | | Major Sources |
|------------------------------|-----------|----------|-------------|---------|------------------------------|---------|---|
| | | | Range | Average | Range | Average | |
| Aluminum (ppb) (b) | 200 | 600 | 110 - 220 | 163 | ND | ND | Surface water treatment process residue; natural deposits erosion |
| Chloride (ppm) | 500 | n/a | 82 - 94 | 88 | 88 - 98 | 96 | Runoff/leaching from natural deposits; seawater influence |
| Color (ACU) | 15 | n/a | 1.0 - 2.0 | 1 | ND - 3 | 1 | Naturally occurring organic materials |
| Manganese (ppb) | 50 | NL = 500 | ND | ND | ND | ND | |
| Odor Threshold (TON) (h) | 3 | NA | 1 | 1 | 19 - 35 | 25 | |
| Specific Conductance (µs/cm) | 1600 | n/a | 860 - 1000 | 930 | 720 - 1000 | 940 | Substances that form ions when in water; seawater influence |
| Sulfate (ppm) | 500 | n/a | 150 - 230 | 183 | 160 - 240 | 200 | Runoff/leaching from natural deposits; industrial waste |
| Total Dissolved Solids (ppm) | 1000 | n/a | 480 - 610 | 527 | 480 - 610 | 560 | Runoff/leaching from natural deposits; seawater influence |

Abbreviations

- AL: Action Level
- ACU: Apparent 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
- TON: Threshold Odor Number
- µs/cm: microsiemens per centimeter

Footnotes continued

(h) Data for Skinner based on state-required quarterly monitoring following MCL exceedance. The quarterly samples reported to the state were 35 TON in January, 20 TON in April, 19 TON in July, and 24 TON in October. Flavor Profile Analysis method was utilized and no complaints were received during this period. TON for Helix and Twin Oaks was reported at 1 TON.

Lead and Copper Rule

The Lead and Copper Rule is a U.S. 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>.

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 2009

Next sampling due: June 2012

Helix Water District summary of water quality results for 2010

Additional Parameters

| Parameter | State MCL | PHG / (MCLG) | Helix Plant | | Twin Oaks/Skiner Plants (j) | |
|--|-----------|--------------|-------------|---------|-----------------------------|----------|
| | | | Range | Average | Range | Average |
| Alkalinity (ppm as CaCO ₃) | n/a | n/a | 120 -130 | 125 | 91 - 130 | 110 |
| Calcium (ppm) | n/a | n/a | 53 - 76 | 61 | 52 - 70 | 64 |
| Chlorate (ppb) | n/a | NL = 800 | n/a | n/a | 180 - 340 / 47 | 263 / 47 |
| Cryptosporidium (Oocysts/100L) | TT | (0) | ND | ND | ND | ND |
| Hardness (ppm as CaCO ₃) | n/a | n/a | 220 - 310 | 253 | 190 - 300 | 260 |
| Hardness (grains per gallon) | n/a | n/a | 13 - 18 | 14.8 | 11.0 - 17.5 | 15 |
| Magnesium (ppm) | n/a | n/a | 22 - 28 | 25 | 21 - 28 | 25 |
| pH | n/a | n/a | 8.0 - 8.1 | 8.1 | 7.6 - 8.3 | 7.9 |
| Potassium (ppm) | n/a | n/a | 4.0 - 4.8 | 4.5 | 3.9 - 4.8 | 4.7 |
| Sodium (ppm) | n/a | n/a | 77 - 98 | 85 | 80 - 100 | 91 |

Unregulated Chemicals Requiring Monitoring

| Parameter | State MCL | PHG / (NL) | Helix Plant | | Twin Oaks/Skiner Plants (j) | | Major Sources |
|--------------------------------------|-----------|------------|-------------|----------|-----------------------------|-----------|--|
| | | | Range | Average | Range | Average | |
| Boron (ppb) | n/a | (1000) | 120 - 140 | 125 | 120 - 140 | 110 | Runoff/leaching from natural deposits; industrial wastes |
| Chromium VI (ppb) (j) | n/a | n/a | ND | ND | ND - 0.23 | ND - 0.16 | Industrial waste discharge; could be naturally present as well |
| N- Nitrosodimethylamine (NDMA) (ppt) | NS | 3 | ND - 3.3 | ND - 3.0 | ND - 4 | 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

(i) Twin Oaks/Skiner columns represent values from both plants. Most of the time, the values were the same. The only parameters where the values had a significant variation were chlorate and chromium VI and those results were broken out separately. The majority of Helix's imported treated water came from Skinner treatment plant.

(j) Chromium VI was not detected at Helix and Twin Oaks plants.

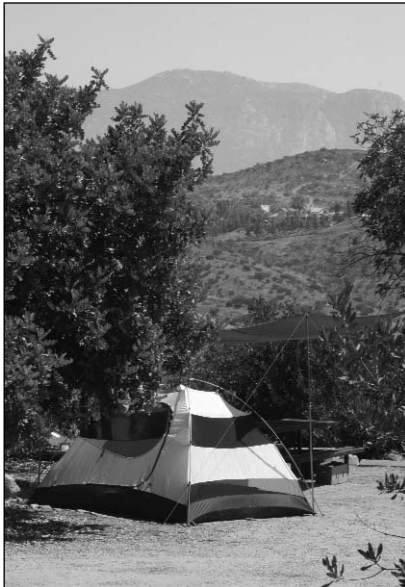
Abbreviations

| | |
|-------|--|
| 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 |
| TON: | Threshold Odor Number |
| TT: | Treatment Technique |

Lake Jennings

Lake Jennings is a recreational facility providing 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 98-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.



Lake Jennings Campground includes full, partial, non-hookup, and tent sites.



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 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 91942

(619) 466-0585

Helix Water District Offices

Water Quality (619) 443-1031

24-Hour Water Emergencies (619) 466-3234



Lake Jennings Campground has a children's play area.



Helix Water District
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La Mesa, CA 91942

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