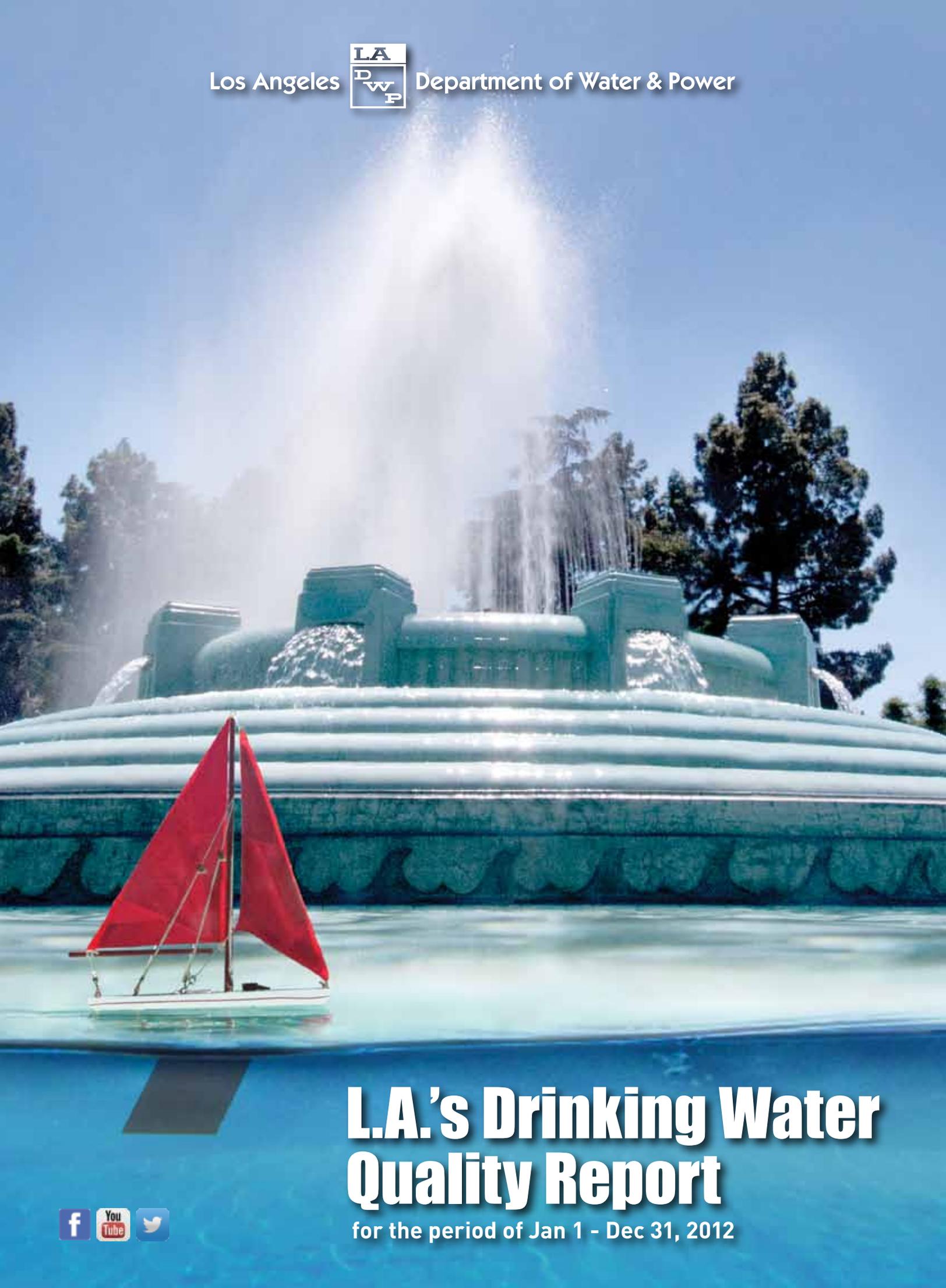


Los Angeles



Department of Water & Power



L.A.'s Drinking Water Quality Report

for the period of Jan 1 - Dec 31, 2012



A Tradition of Excellence



For over a century, LADWP has carefully developed and maintained a world-class water system to serve the highest quality water at the lowest possible cost to the City of Los Angeles.

In 2012, we supplied our 4 million customers with 200 billion gallons of treated water that met or surpassed all drinking water standards. These standards are set by the U.S. Environmental Protection Agency (EPA) and the State of California Department of Public Health (State Health) Drinking Water Program.

It's no easy task to achieve such high quality water. Hundreds of employees and countless hours are spent protecting our water sources, managing state-of-the-art water treatment processes, maintaining and operating our facilities, and vigilantly monitoring and testing the water we serve.

To ensure the quality of the water to your home, we collected over 25,000

water samples across the city, and performed more than 240,000 water quality tests—not just for compliance, but also for research and operational improvements. We tested for more than 200 contaminants and constituents throughout the year including both regulated contaminants, such as arsenic, chromium, lead, and disinfection by-products, as well as constituents of interest such as sodium and hardness. Every day, LADWP employees work diligently to ensure that you receive the high-quality, low cost drinking water you've come to expect. This is our commitment to you.

In this time of increasing regulations and mandates, we continue to explore innovative new treatments and make progress on several large water quality improvement projects in order to keep water quality at its highest. One such project, the ultra-violet treatment facility at the L.A. Aqueduct Filtration Plant, is nearing completion and will add an advanced level of protection to your drinking water. We

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are well underway on the construction of another project that will improve water reliability and quality – the Headworks Reservoir in the Griffith Park area. This complex will consist of two underground reservoirs with a combined capacity of 110 million gallons. Just as the Los Angeles Aqueduct has served the City for 100 years, investing in such large projects will help ensure a high-quality, reliable water system well into the 21st century.



James B. McDaniel

Senior Assistant General Manager - Water



Dr. Pankaj Parekh

Director of Water Quality

Water Quality News & Updates

Expanding Use of Chloramine

Improving water quality is a continuous process. In our ongoing effort to reduce the level of disinfection byproducts while ensuring microbial safety of the drinking water, we are methodically expanding the use of monochloramine (chloramine) to provide the necessary protection to the water as it travels through miles of pipe to reach your tap. While both chlorine and chloramine are effective at killing bacteria and other microorganisms, chloramine lasts longer, forms fewer byproducts and no chlorine odor. Our use of chloramine will also make it possible to exchange water with neighboring cities such as Beverly Hills, Santa Monica, Culver City, and Inglewood that have been using chloramine for decades.

A new drinking water regulation that further reduces the allowable level of disinfection byproducts took effect in April 2012. To comply with the new regulation additional time is needed to complete construction of critical facilities before a complete change to chloramine can occur. LADWP received a time extension from the California Department of Public Health (State Health) that allows us to complete the necessary construction projects while remaining in compliance. While most of the distribution system meets the new compliance requirements, there are some areas that may not, on a consistent basis, without the use of chloramine. To obtain the extension, we demonstrated to State Health that compliance with the new requirement is achievable within two additional years and that further public health protection from waterborne diseases caused by microorganisms such as *Cryptosporidium* and viruses will be provided. For more information on the new disinfection byproducts regulation, please turn to page 4 of this report.

Customers in the Pacific Palisades and Brentwood neighborhoods began receiving chloraminated water in

late 2012. The remainder of West Los Angeles will see improvements by late spring 2013.

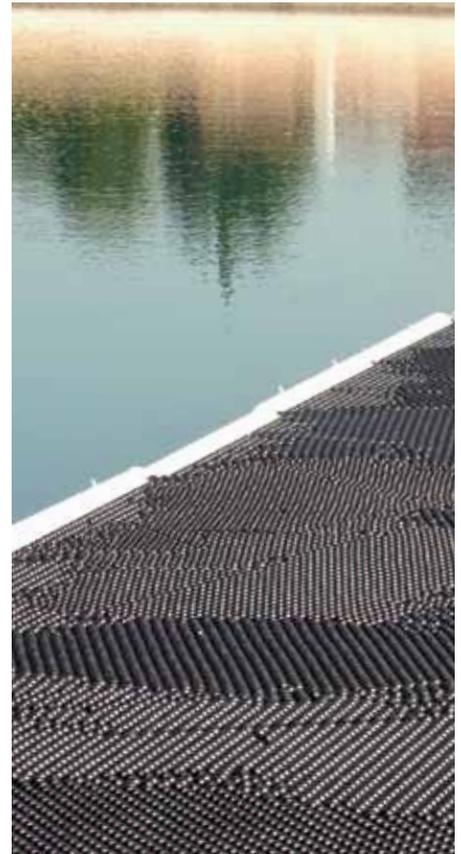
Customers in the Harbor, Eastern Los Angeles and the Sunland-Tujunga areas of the city have received chloraminated water for several years and they shared that they are very satisfied. Los Angeles will join other cities in southern California—over 19 million people—currently receiving chloraminated water from the Metropolitan Water District of Southern California.

Since chlorine and chloramine are different chemicals, adjustments to certain types of special water uses by a small portion of our customers, need to be made. Operators of kidney dialysis machines know to monitor their equipment more frequently for both “free” and “total” chlorine, as recommended by the Southern California Renal Disease Council. If you maintain a fish pond, tank, or aquarium, you must provide adequate treatment to remove both chlorine and chloramine, as both disinfectants are toxic to fish.

Water quality improvements to convert the entire city to chloramine are expected to be completed by early 2014. Meanwhile, all LADWP customers should expect to receive either type of disinfectant in the water at any time. For updates on chloramine expansion please visit www.ladwp.com/waterquality, or call 1-800-DIAL DWP.

Safeguarding Our Drinking Water

The Surface Water Treatment Rule (SWTR), administered by State Health, is a drinking water regulation that safeguards open reservoir supplies from microbiological contamination that may occur when rain runoff from nearby hillsides and slopes enters the water. In Los Angeles, the SWTR applied to four open water reservoirs—



Lower Stone Canyon, Encino, and Upper and Lower Hollywood. We successfully met the compliance deadlines and treatment requirements for all four open reservoirs that were subject to the SWTR. Upper and Lower Hollywood Reservoirs were successfully removed in July 2001 and replaced with two 30 million gallon buried tanks. New facilities to treat and serve water from Encino Reservoir were completed in January 2006 and from Lower Stone Canyon Reservoir in September 2008. The latest update to the SWTR is the Long Term 2 Enhanced Surface Water Treatment Rule (LT2). This rule, as applied to Los Angeles, requires LADWP to remove from service the remaining six uncovered distribution reservoirs according to a state-approved schedule memorialized through a compliance agreement entered into between LADWP and State Health. The six reservoirs are Los Angeles, Upper Stone Canyon, Santa Ynez, Ivanhoe, Silver Lake, and Elysian Reservoirs.



Encino Reservoir

We are working diligently to bring all reservoirs into compliance as quickly as possible and according to the State approved schedule.

Reservoir Status Update

- Santa Ynez Reservoir was removed from service in November 2010 for the installation of a floating cover, and was placed back into service as a covered reservoir in May 2011.
- The Final Environmental Impact Report (EIR) for Elysian Reservoir Water Quality Improvement Project was completed in September 2011.
- The Final EIR for Upper Stone Canyon Reservoir WQIP was completed in January 2012. The shading of the reservoir with shade balls began in November 2012.
- Both Elysian and Upper Stone EIRs were approved by the Board of Water and Power Commissioners for the installation of floating covers.
- Silver Lake Reservoir will be taken out of service in December of 2013 and Ivanhoe Reservoir will be taken

out of service November 2014. Headworks Reservoir will replace the storage capacity lost when Ivanhoe Reservoir is removed from service. Headworks Reservoir is currently under construction.

- An ultraviolet treatment facility is currently in development to disinfect water leaving LA Reservoir. In addition, LA Reservoir will have shade balls installed starting in the summer of 2013.

The estimated cost to modify the six reservoirs is \$1.2 billion.

In compliance with the LT2 Agreement, we routinely monitor our open reservoirs for microbial pathogens including *Cryptosporidium* and *Giardia*. **None were detected in 2012.** Nonetheless, we believe it important to provide you with a standard statement from State Health regarding the need to protect our water from *Cryptosporidium*.

“*Cryptosporidium* is a microbial pathogen found in surface water throughout the U.S. Although filtration

removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised persons are at greater risk of developing life threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.”

Disinfection Byproducts Regulations

The latest requirement for disinfection byproducts in drinking water is the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2) (<http://water.epa.gov/lawsregs/rulesregs/sdwa/stage2/index.cfm>) effective April 1, 2012. Stage 2 requires more stringent monitoring. All compliance monitoring locations must represent the highest byproduct values in the city. If these locations meet the standards, then the rest of the city will have even lower values. Rather than a city-wide average, Stage 2 compliance requires each location to meet the standards on a running annual average. This new requirement will ensure uniform compliance throughout the city. Our strategy to achieve compliance with Stage 2 is to expand the use of chloramine that forms far fewer of the regulated byproducts. We expect to be fully compliant with Stage 2 in 2014, and estimate the cost to construct facilities to enable our compliance to be \$240 million.

Public Health Goals Report

Once every three years, State regulations requires LADWP to prepare a Public Health Goals Report that focuses on drinking water contaminants found at levels above a California Public Health Goal (PHG). A PHG is a level identified as having no adverse health effects. PHGs are not standards, but are used in the regulatory process to create a primary drinking water standard for new contaminants that are not yet regulated. While PHGs are based solely on health outcomes, primary drinking water standards must also consider testing and treatment technology, and balance the health benefits with the cost of compliance.

The PHG report includes the effects of exposure to the contaminant, the relative risk associated with it, the best available treatment technology to remove or reduce the contaminant down to the PHG level, and the cost associated with such treatments. For the City of Los Angeles, the contaminants in drinking water that would be the best candidates for further risk reduction, beyond regulatory requirements are **arsenic, trihalomethanes, haloacetic acids, and bromate.**

LADWP's 2013 Public Health Goals report will be available by July 1, 2013 at www.ladwp.com/waterquality and will be presented to the Board of Water and Power Commissioners at a regularly scheduled meeting.

Water Treatment Process

Surface Water Treatment

LADWP water comes from four different water sources—three are from surface water sources like lakes and rivers, and the other is groundwater from local wells and springs. The taste and appearance of surface water can vary seasonally and groundwater generally contains more minerals. All these factors make for different tasting water. Despite these variations, LADWP water meets all drinking water standards for health and aesthetics.

All water coming from the Los Angeles Aqueducts, the California Aqueduct (a.k.a. State Water Project), and the Colorado River Aqueduct is filtered and treated to ensure a safe drinking water supply. At the Los Angeles Aqueduct Filtration Plant, water is treated as follows:

Water flows into the filtration plant by gravity and travels through screens to remove environmental debris such as twigs and dead leaves. Ozone, a super-charged oxygen molecule and a powerful disinfecting agent is injected into the water to destroy bacteria and other impurities that affect taste, odor and color. Treatment chemicals are quickly dispersed into the water to make fine particles called floc. A six-foot-deep filter (crushed coal over gravel) removes the floc and previously added chemicals. Chlorine added during the final step ensures

lasting disinfection and protects the water as it travels through the City's distribution system to your tap. Fluoride is optimized to promote oral health by strengthening tooth enamel.

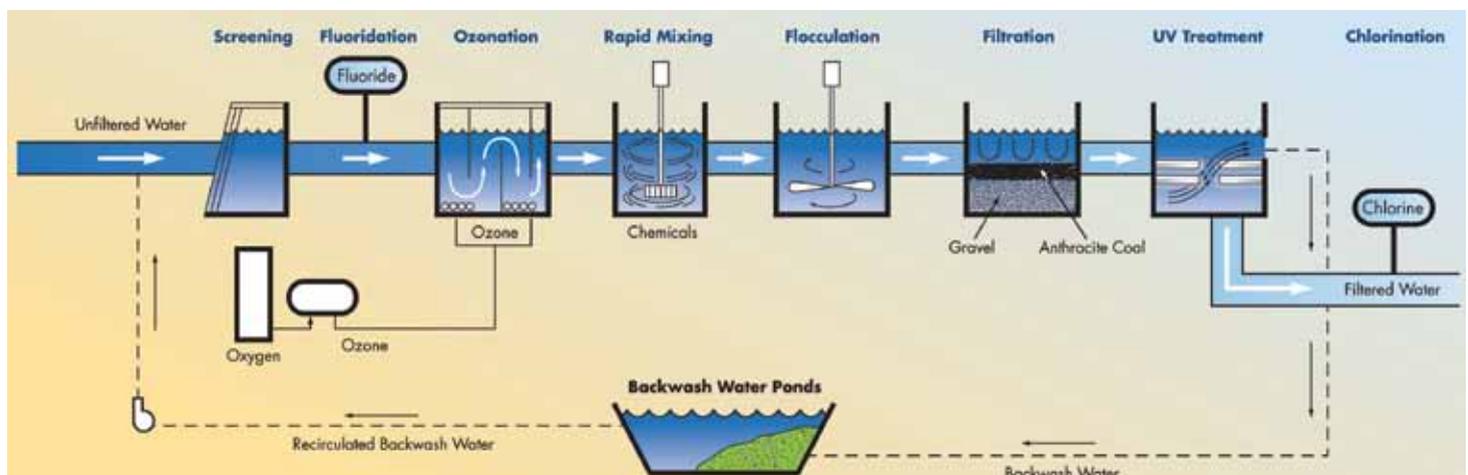
Special Needs Population Precautions

There are certain health conditions for which additional instruction on environmental exposures including drinking water would be advisable. Customers with weakened immune systems, who may have undergone chemotherapy treatment, received organ transplants, suffer from HIV/AIDS or other immune system disorders, or some elderly and infants can be particularly at risk from infection. Customers concerned about these types of health challenges should seek advice about drinking water from their health care providers. Contact the EPA's Safe Drinking Water Hotline at (800) 426-4791, or visit www.epa.gov for free guidelines on how to lessen the risk of infection by Cryptosporidium and other microbial contaminants.

Groundwater Treatment

The City's vast groundwater supply in the San Fernando and Central Basins

The Water Treatment Process



are generally clean, but there are areas where water quality is not optimal or has contamination. We pump from the clean parts of the basins and disinfect this groundwater with chlorine as a safeguard against microorganisms. In December, 2009, the Federal Ground Water Rule went into effect. This regulation requires all U.S. water agencies to disinfect groundwater sources, a standard practice that we have had for decades. Because of man-made contaminants found in the San Fernando Valley groundwater wells, we continuously monitor and ensure that the well water meets water quality standards and results are far below the maximum contaminant levels permitted by Federal and State regulations. To recover the use of all water in the San Fernando Basin and expand our local water supplies, we are designing a comprehensive approach to remove groundwater contaminants.

Improving Water Quality at Home

We use advanced treatment technologies to provide the best quality water to you. Sometimes a water main or hydrant breaks which can temporarily cause discoloration of the water supply. Other times your home plumbing may discolor or add particles to your water, possibly due to mineral build up, the water heater, or just old rusty pipes.

Here are a few tips to help you figure out if a water quality problem is coming from our plumbing or yours.

Our plumbing:

- The water was clear, and then suddenly it's discolored and does not clear.
- The water is discolored at all water fixtures.
- Only the cold water is suddenly discolored.

Your plumbing:

- The water is discolored whenever you first use it after several hours of non-use, but it eventually clears.
- You notice particles or discoloration, but they only appear at one or several water fixtures, but not all of them.
- You notice particles, but only at one water fixture.
- The problem exists only in the hot water.

If you're still not sure, here's a simple test you can do:

Take a clean, white container and find a hose bib near your water meter. Turn the water on full blast and run it for at least two minutes. After two minutes, fill the container with water. This water should be clear, colorless, and particle free. If not, please call us at 1-800-DIAL-DWP or visit www.ladwp.com/waterquality to learn more about what you can do to improve water quality at home.

Construction Continues on Largest UV Water Treatment Facility in the West

The Los Angeles Aqueduct Filtration Plant (LAAFP) in Sylmar will soon be home to a state-of-the-art ultraviolet (UV) treatment facility, currently under construction, that will add an advanced level of protection to the LADWP's treatment process. Treating approximately 600 million gallons of water per day—the UV facility will be the largest west of the Mississippi River and the second largest in the United States.

The new \$60-million facility, expected to be operational in April 2014, is needed to comply with new water quality regulations established by the U.S. Environmental Protection Agency (USEPA). The LAAFP currently treats the city's



drinking water by injecting ozone to kill bacteria, filtration to remove particulate matter and chlorine to disinfect to meet federal and state water quality regulations and standards.

The addition of UV treatment will help protect against microbial contaminants that exist naturally in surface water sources and will reduce the use of chemical

treatments, such as ozone and chlorine. UV treatment is one of the most cost effective methods available, and has been identified by the USEPA as one of the most effective purification methods for water treatment.

Watch a video about this project on the LADWP YouTube channel at www.YouTube.com/ladwp1.

Sources of Water for City Service Areas

San Fernando Valley Communities

Sources: Los Angeles Aqueduct, local groundwater, and MWD State Water Project.

Arleta	Northridge	Tarzana
Canoga Park	Olive View	Toluca Lake
Chatsworth	Pacoima	Tujunga
Encino	Panorama City	Valley Village
Granada Hills	Porter Ranch	Van Nuys
Hollywood Hills	Reseda	Warner Center
Lake View	Sherman Oaks	West Hills
Terrace	Studio City	Winnetka
Mission Hills	Sun Valley	Woodland Hills
North Hills	Sunland	
North Hollywood	Sylmar	

Western Los Angeles Communities

Sources: Los Angeles Aqueduct and MWD State Water Project.

Bel Air Estates	Mar Vista	West Los Angeles
Beverly Glen	Pacific Palisades	Westchester
Brentwood	Palisades Highlands	Westwood
Castellamare	Palms	
Century City	Playa del Rey	
Cheviot Hills	Sawtelle	
Culver City*	Venice	

Eastern Los Angeles Communities

Sources: MWD State Water Project and Colorado River Aqueduct.

Atwater Village	El Sereno	Montecito Heights
Boyle Heights	Glassell Park	Monterey Hills
Cypress Park	Highland Park	Mt. Washington
Eagle Rock	Lincoln Heights	
Echo Park		

Central Los Angeles Communities

Sources: Los Angeles Aqueduct, MWD State Water Project, and local groundwater.

Baldwin Hills	Hollywood	Mt. Olympus
Chinatown	Hyde Park	Park La Brea
Country Club Park	Koreatown	Rancho Park
Crenshaw	L.A. City Strip*	Silverlake
Griffith Park	Little Tokyo	Watts
Hancock Park	Los Feliz	West Hollywood*
	Mid City	Westlake

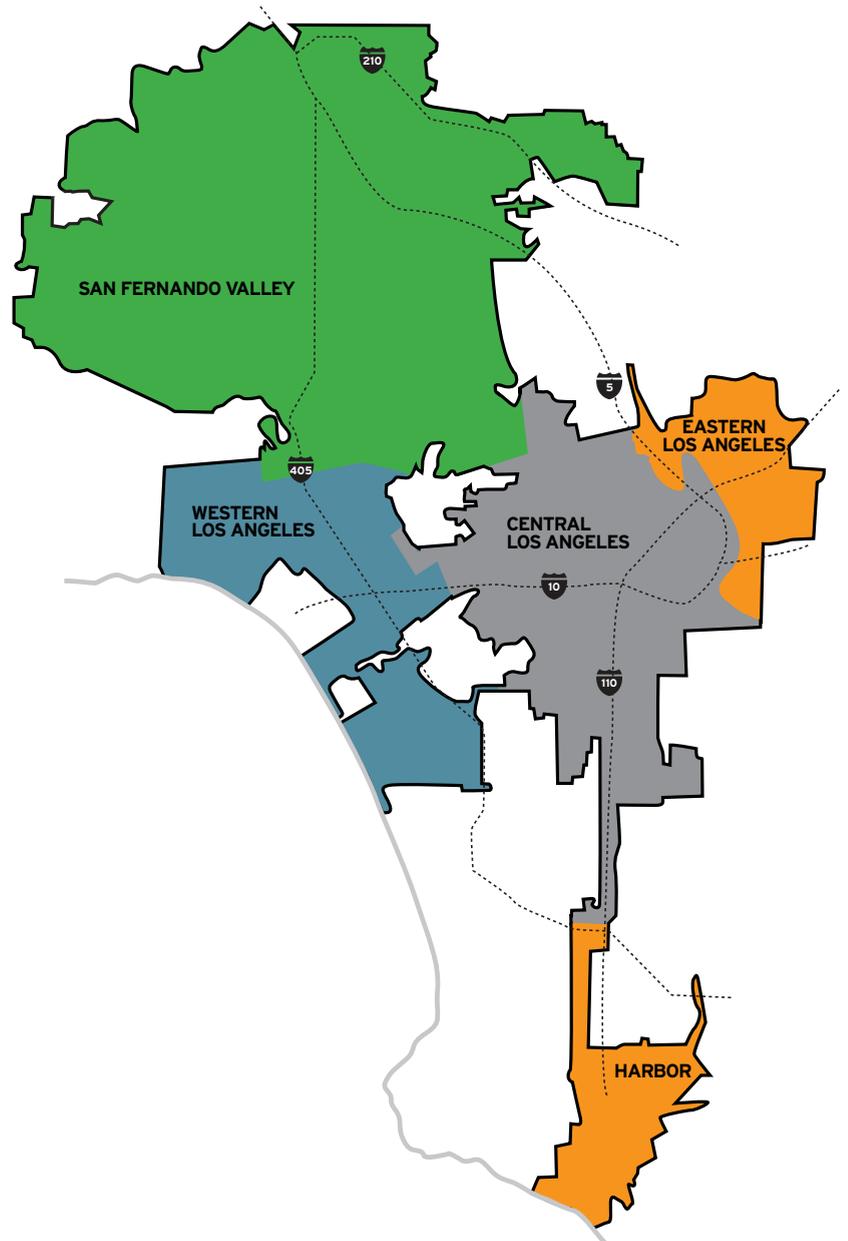
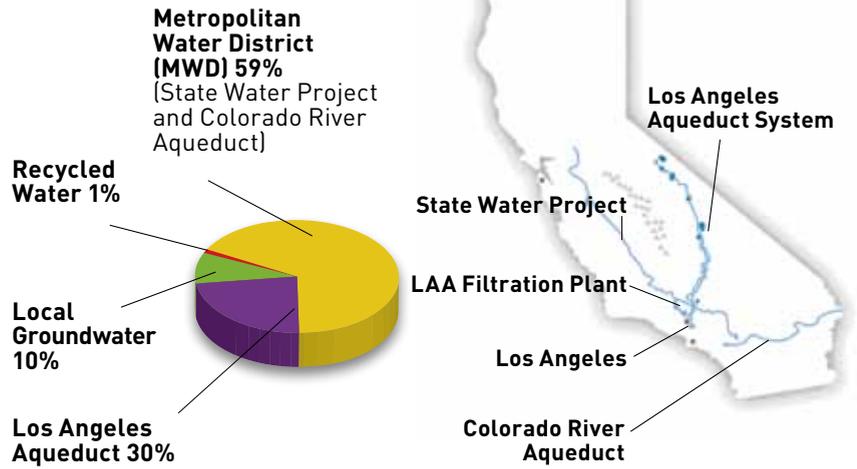
Harbor Communities

Sources: MWD State Water Project and Colorado River Aqueduct.

East San Pedro	Harbor Gateway*	Wilmington
(Terminal Island)	L.A. City Strip*	
Harbor City	San Pedro	

* parts of

2012 Sources



2012 Drinking Water Quality Monitoring Results

Tables I-IV list the results of water tests performed by LADWP and MWD from January to December 2012. LADWP tests for over 200 contaminants. These tables include only contaminants with values that are detected.

How to Read the Tables

The constituents/contaminants found in the water served in your area are listed as follows:

- For **San Fernando Valley Area** – water test results are under the Los Angeles Aqueduct Filtration Plant, the Northern Combined Wells, and MWD Jensen Filtration Plant columns
- For **Western Los Angeles Area** – water test results are under the Los Angeles Aqueduct Filtration Plant column
- For **Central Los Angeles Area** – water test results are under the Los Angeles Aqueduct Filtration Plant and the Southern Combined Wells columns

- For **Harbor/Eastern Los Angeles Area** – water test results are under the MWD Jensen, Weymouth, and Diemer Filtration Plants columns

Some constituents/contaminants are reported on a citywide basis as required by the California Department of Public Health.

The unregulated contaminants reported on an area-wide basis are included for additional information on the water served in your area.

Abbreviations and Footnotes

mg/L = milligrams per liter (equivalent to ppm)

µg/L = micrograms per liter (equivalent to ppb)

ng/L = nanograms per liter (equivalent to ppt)

pCi/L = picoCuries per liter

% = percentage

µS/cm = microSiemens per centimeter

NTU = nephelometric turbidity units

TON = threshold odor number

CFU = colony-forming unit

ACU = apparent color unit

< = less than the detection limit

NA = not applicable

NR = not reported

NT = not tested

HRAA = highest running annual average

(a) Values reflect Highest Running Annual Average (HRAA). HRAA is the highest of all Running Annual Averages (RAAs). RAA is a calculated average of all the samples collected within a twelve month period that may include test data from the previous year. HRAA may be higher than the range which is based on the test data in the current calendar year.

(b) Bromate is tested in water treated with ozone. Bromate has also been found in water treated with chlorine in some LADWP reservoirs exposed to sunlight. In 2012 LADWP used two analytical methods, with different reporting levels, for bromate analysis. Results reflect the higher reporting level of 5.0 µg/L. The method used by MWD for bromate has a reporting level of 1.0 µg/L.

(c) Radiological monitoring is performed in cycles of various frequencies. In 2012 LADWP tested for Gross Beta Particle Activity, Radon, Strontium-90 and Tritium in samples collected at the Los Angeles Aqueduct Filtration Plant, Northern Combined Wells blend points, and Southern Combined Wells blend points. MWD conducted all radiological monitoring in 2011 for samples collected the Weymouth, Diemer, and Jensen Treatment Plants.

(d) Turbidity is a measure of the cloudiness of the water and is a good indicator of water quality and filtration performance. High turbidity can hinder the effectiveness of disinfectants.

The Primary Drinking Water Standard for turbidity at water filtration plants is less than or equal to 0.3 NTU in at least 95% of the measurements taken in any month and shall not exceed 1.0 NTU at any time. The reporting requirement for treatment plant turbidity is: Report the highest single measurement in the calendar year and the lowest monthly percentage of measurements that are less than or equal to 0.3 NTU.

(e) At-the-tap monitoring of lead and copper is conducted every three years as required by the Lead and Copper Rule. A system is out of compliance if the Regulatory Action Level is exceeded in the 90th percentile of all samples at the customers' tap. The most recent monitoring was conducted in 2012. Although the City's treated water has little, if any, detectable lead, studies were conducted and corrosion control has been implemented in the Western Los Angeles area in 2010. Corrosion control will be expanded to all other area of the City by 2020.

(f) Values reflect testing at entry to the distribution system



We Want to Hear from You!

Take the Online Water Quality Survey

As your municipal water provider, we welcome all thoughts and comments about City of Los Angeles drinking water and ask that you take a few moments to complete a brief online survey at www.ladwp.com/waterquality.

A brief on-line survey was included in the 2011 Annual Water Quality Report. The survey asked for your thoughts about the price of water, the value of water quality improvement projects, experiences with our Walter Quality Customer Services staff, and invited your comments or concerns about water quality. A total of 222 responses were received. In general, the price of water and improvement projects received favorable responses. Most respondents had no comments or concerns. To view details of the survey go to www.ladwp.com/waterqualityreport.

Terms Used In The Tables

Compliance: A drinking water standard based on the health risk (primary standards) and aesthetic (secondary standards) exposure of a contaminant to consumers. For example, bacteria and nitrate have strict limits that must be met at all times due to the acute effects they can cause. Other standards, like small amounts of disinfection by-products and man-made chemicals, have standards that are based on a lifetime of exposure because the risk to consumers is very low. Compliance with most standards is based on an average of samples collected within a year. This allows for some fluctuation above and below the numerical standard, while still protecting public health.

Maximum Contaminant Level (MCL): MCL is the highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the Public Health Goals (PHGs) or Maximum Contaminant Level Goals (MCLGs) as is economically and technologically feasible. For certain contaminants, compliance with the MCL is based on the average of all samples collected throughout the year.

Maximum Contaminant Level Goal (MCLG): MCLG is 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): MRDL is 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): MRDLG is 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. MRDLGs are set by the USEPA.

Notification Level (NL): NL is the health-based advisory level established by CDPH for chemicals in drinking water that lack MCLs.

Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Public Health Goal (PHG): PHG is 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, Office of Environmental Health Hazard Assessment (OEHHA).

Regulatory Action Level (AL): AL is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. ALs are set by the USEPA.

Secondary Maximum Contaminant Level (SMCL): SMCL is the highest level a constituent allowed in drinking water that may affect the taste, odor or appearance.

Treatment Technique (TT): TT is a required process intended to reduce the level of a contaminant in drinking water. For example, the filtration process is a treatment technique used to reduce turbidity (the cloudiness in water) and microbial contaminants from surface water. High turbidities may be indicative of poor or inadequate filtration.



Table I

Calendar Year 2012 Water Quality Monitoring Results

Health-Based Primary Drinking Water Standards (MCLs) Constituents/Contaminants Detected in Treated Water

Constituents / Contaminants	Units	Los Angeles Aqueduct Filtration Plant		Northern Combined Wells		Southern Combined Wells		MWD Weymouth Plant	
		Average	Range	Average	Range	Average	Range	Average	Range
1,1-Dichloroethylene		<0.5	<0.5	<0.5	<0.5 - 1	<0.5	<0.5	<0.5	<0.5
Aluminum	µg/L	<50	<50	<50	<50	<50	<50	120 (a)	<50 – 210
Arsenic	µg/L	3	<2 – 6	2	<2 – 3	2	<2 – 2	<2	<2
Barium	µg/L	<100	<100	<100	<100 – 128	<100	<100 – 116	<100	<100
Bromate (b)	µg/L	<5	<5 – 8	NA	NA	NA	NA	NA	NA
Gross Beta Particle Activity (c)	pCi/L	<4	<4 – 6	<4	<4 – 6	<4	<4 – 18	NT	NT
Nickel	µg/L	<10	<10	<10	<10 – 12	<10	<10 – 12	<10	<10
Nitrate (as NO3)	mg/L	<2	<2	7	<2 – 31	7	<2 – 16	<2	<2
Nitrate + Nitrite (as N)	mg/L	<0.4	<0.4	1.9	0.5 – 4.5	1.9	<0.4 – 3.5	<0.4	<0.4
Tetrachloroethylene (PCE)	µg/L	<0.5	<0.5	<0.5	<0.5 – 6.0	<0.5	<0.5	<0.5	<0.5
Trichloroethylene (TCE)	µg/L	<0.5	<0.5	<0.5	<0.5 – 6.3	<0.5	<0.5 – 2.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	<5	<5	<5	<5 – 19	<5	<5	<5	<5
Turbidity (d)	NTU	100%	0.18	NA	NA	NA	NA	100%	0.04
Uranium	pCi/L	3	2 – 5	3	2 – 3	3	<1 – 5	2	1-2

Health-Based Primary Drinking Water Standards (MCLs) Constituents/Contaminants Detected in Treated Water and Reported on City-wide Basis

Constituents / Contaminants	Units	Average	Range
Chlorine Residual, Total	mg/L	HRAA = 1.7 (a)	Range = 1.5 – 1.8
Copper (at-the-tap) AL = 1300 (e)	µg/L	90th Percentile value = 383	number of samples exceeding AL = 0 out of 110
Fluoride	mg/L	Average = 0.7	Range = 0.6 – 0.8
Haloacetic Acids (Five) (HAA5)	µg/L	HRAA = 31 (a)	Range = 7 – 69
Lead (at-the-tap) AL = 15 (e)	µg/L	90th Percentile value = 9.2	number of samples exceeding AL = 4 out of 110
Total Coliform Bacteria	% Positives	Highest monthly % positive samples = 1.4 %	Range = % positive samples 0 – 1.4
Total Trihalomethanes (TTHM)	µg/L	HRAA = 54 (a)	Range = 13 -134

Table II

Calendar Year 2012 Water Quality Monitoring Results

Aesthetic-Based Secondary Drinking Water Standards (SMCLs) Constituents/Contaminants Detected in Treated Water

Constituents / Contaminants	Units	Los Angeles Aqueduct Filtration Plant		Northern Combined Wells		Southern Combined Wells		MWD Weymouth Plant	
		Average	Range	Average	Range	Average	Range	Average	Range
Aluminum	µg/L	<50	<50	<50	<50	<50	<50	120 (a)	<50 – 210
Chloride	mg/L	50	27 – 62	47	20 – 55	47	25 – 62	90	85 – 95
Color, Apparent	ACU	4	3 – 5	4	3 – 8	4	3 – 8	1	1
Iron	µg/L	<100	<100	<100	<100 – 145	<100	<100	<100	<100
Manganese NL = 500	µg/L	<20	<20	<20	<20	<20	<20 – 43	<20	<20
Odor	TON	<1	<1 – 1	<1	<1 – 1	<1	<1 – 1	2	2
Specific Conductance	µS/cm	363	331 – 411	530	500 – 637	530	350 – 740	740	350 – 930
Sulfate (as SO4)	mg/L	37	26 – 42	124	28 – 147	124	39 – 150	140	130 – 160
Total Dissolved Solids (TDS)	mg/L	231	204 – 245	415	214 – 464	415	230 – 483	470	450 – 490
Turbidity (f)	NTU	<0.1	<0.1 – 0.1	0.2	<0.1 – 2	0.2	<0.1 – 0.5	<0.1	<0.1
Zinc	µg/L	<50	<50	<50	<50	<50	<50 – 1320	<50	<50

MWD Diemer Plant		MWD Jensen Plant		State Primary Standard (MCL) or [MRDL]	Meet Primary Standard? (Yes/No)	State PHG or Federal (MCLG)	Major Sources in Our Drinking Water
Average	Range	Average	Range				
<0.5	<0.5	<0.5	<0.5	6	YES	10	Discharges from industrial uses
150 (a)	<50 – 340	83 (a)	60 - 110	1000	YES	600	Erosion of natural deposits; residue from surface water treatment processes
<2	<2	<2	<2	10	YES	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
<100	<100	<100	<100	1000	YES	2000	Erosion of natural deposits
NA	NA	5.2 (a)	3.7 – 6.9	10	YES	0.1	Byproduct of ozone disinfection; formed under sunlight
NT	NT	NT	NT	50	YES	(0)	Naturally present in the environment
<10	<10	<10	<10	100	YES	12	Erosion of natural deposits; discharge from metal factories
<2	<2	<2	<2	45	YES	45	Erosion of natural deposits; runoff and leaching from fertilizer use
<0.4	<0.4	<0.4	<0.4	10	YES	10	Erosion of natural deposits; runoff and leaching from fertilizer use
<0.5	<0.5	<0.5	<0.5	5	YES	0.06	Discharge from factories, dry cleaners, auto shops (metal degreaser)
<0.5	<0.5	<0.5	<0.5	5	YES	1.7	Discharge from metal degreasing sites and other factories
<5	<5	<5	<5	150	YES	700	Discharge from industrial factories; degreasing solvent; propellant and refrigerant
100%	0.04	100%	0.06	TT	YES	none	Soil runoff
2	2	1	<1-2	20	YES	0.5	Erosion of natural deposits

State Primary Standard (MCL) or [MRDL]	Meet Primary Standard ?	State PHG/ [MRDLG] or Federal (MCLG)	Major Sources in Our Drinking Water
(4)	YES	[4]	Drinking water disinfectant added for treatment
TT	YES	300	Internal corrosion of household water plumbing systems
2	YES	1	Erosion of natural deposits; water additive that promotes strong teeth
60	YES	none	Byproduct of drinking water disinfection
TT	YES	0.2	Internal corrosion of household water plumbing systems
5% of monthly samples are coliform positive	YES	(0)	Naturally present in the environment
80	YES	none	Byproduct of drinking water chlorination

MWD Diemer Plant		MWD Jensen Plant		State Secondary MCL	Meet Secondary Standard?	Major Sources in Our Drinking Water
Average	Range	Average	Range			
150 (a)	<50 – 340	83 (a)	60 - 110	200	YES	Erosion of natural deposits; residue from some surface water treatment process
90	87 – 93	56	50 - 63	500	YES	Runoff/leaching from natural deposits; seawater influence
1	1	2	1 – 2	15	YES	Naturally-occurring organic materials
<100	<100	<100	<100	300	YES	Leaching from natural deposits; industrial wastes
<20	<20	<20	<20	50	YES	Leaching from natural deposits
2	2	2	2	3	YES	Naturally-occurring organic materials
780	340 – 930	440	400 – 500	1600	YES	Substances that form ions when in water; seawater influence
160	160	48	46 – 50	500	YES	Runoff/leaching from natural deposits
500	490 – 500	260	240 – 280	1000	YES	Runoff/leaching from natural deposits
<0.1	<0.1	<0.1	<0.1 – 0.1	5	YES	Soil runoff
<50	<50	<50	<50	5000	YES	Run off/leaching from natural deposit

Table III Calendar Year 2012 Water Quality Monitoring Results
Unregulated Drinking Water Constituents/Contaminants Detected in Treated Water

Constituents/Contaminants	Units	Los Angeles Aqueduct Filtration Plant		Northern Combined Wells		Southern Combined Wells	
		Average	Range	Average	Range	Average	Range
Alkalinity, Total (as CaCO ₃)	mg/L	93	84 – 112	135	98 – 198	135	97 – 200
Bicarbonate Alkalinity (as CaCO ₃)	mg/L	93	84 – 112	135	98 – 198	135	97 – 200
Boron NL = 1000	µg/L	304	244 – 445	232	110 – 364	232	<100 – 330
Bromide	µg/L	40	<20 – 60	40	<20 – 50	40	<20 – 80
Calcium	mg/L	25	23 – 26	63	28 – 78	63	30 – 82
Chromium, Hexavalent	µg/L	<1	<1	<1	<1 – 2	<1	<1 – 3
Hardness, Total (as CaCO ₃)	mg/L	102	87 – 106	229	99 – 274	229	115 – 296
Heterotrophic Bacteria	CFU/mL	1	<1 – 11	NA	NA	NA	NA
Magnesium	mg/L	10	6 – 11	18	7 – 20	18	9 – 22
N-Nitrosodimethylamine (NDMA) NL=10	ng/L	NT	NT	NT	NT	NT	NT
pH	Unit	7.5	7.3 – 7.8	7.4	7.1 – 7.8	7.4	7.0 – 7.8
Phosphate (as PO ₄)	µg/L	55	<31 – 67	108	67 – 178	108	77 – 1600
Potassium	mg/L	3	3 – 4	4	3 – 5	4	3 – 4
Radon (c)	pCi/L	<100	<100	<100	<100	<100	<100 – 382
Silica (as SiO ₂)	mg/L	15	12 – 18	20	16 – 26	20	13 – 26
Sodium	mg/L	44	34 – 47	49	23 – 53	49	33 – 53
Total Organic Carbon (TOC)	mg/L	1.7	1.4 – 1.8	1	<0.3 – 1.3	1	0.3 – 2
Vanadium NL = 50	µg/L	<3	<3	<3	<3 – 6	<3	<3 – 3

Table IV Calendar Year 2012 Water Quality Monitoring Results
Drinking Water Disinfection By-Products Reported on Area-Wide Basis

Constituents/Contaminants	Units	San Fernando Valley		Central Los Angeles		Western Los Angeles		Harbor / Eastern Los Angeles		Major Sources in Our Drinking Water
		Average	Range	Average	Range	Average	Range	Average	Range	
Bromodichloromethane (BDCM)	µg/L	16	4 – 32	13	<1 – 20	25	4 – 57	13	4 – 23	By-product of chlorine/ chloramine disinfection
Bromoform	µg/L	4	<1 – 13	5	<1 – 10	4	<1 – 10	6	1 – 14	By-product of chlorine/ chloramine disinfection
Chlorate NL = 800	µg/L	419	<20 – 1330	226	<20 – 812	177	41 – 385	40	<20 – 80	By-product of chlorine disinfection
Chloroform	µg/L	16	3 – 44	11	<1 – 23	36	5 – 115	11	2 – 20	By-product of chlorine/ chloramine disinfection
Dibromoacetic Acid (DBAA)	µg/L	6	<1 – 16	6	2 – 10	8	1 – 17	5	3 – 11	By-product of chlorine/ chloramine disinfection
Dibromochloromethane (DBCM)	µg/L	16	3 – 34	15	<1 – 23	20	3 – 36	16	5 – 27	By-product of chlorine/ chloramine disinfection
Dichloroacetic Acid (DCAA)	µg/L	15	2 – 44	13	<1 – 32	25	5 – 48	6	2 – 17	By-product of chlorine/ chloramine disinfection
Monobromoacetic Acid (MBAA)	µg/L	1	<1 – 3	1	<1 – 2	1	<1 – 3	<1	<1 – 2	By-product of chlorine/ chloramine disinfection
Monochloroacetic Acid (MCAA)	µg/L	4	<1 – 11	4	<1 – 7	6	<1 – 13	3	<1 – 9	By-product of chlorine/ chloramine disinfection
Trichloroacetic acid (TCAA)	µg/L	6	<1 – 16	5	<1 – 15	10	3 – 19	4	1 – 9	By-product of chlorine/ chloramine disinfection

MWD Weymouth Plant		MWD Diemer Plant		MWD Jensen Plant		Major Sources in Our Drinking Water
Average	Range	Average	Range	Average	Range	
95	61 – 120	98	53 – 120	79	72 – 93	Erosion of natural deposits
NT	NT	NT	NT	NT	NT	Naturally-occurring dissolved gas; erosion of natural deposits
130	130	130	130	170	170	Erosion of natural deposits
NT	NT	NT	NT	NT	NT	Runoff/leaching from natural deposits; seawater influence
46	45 – 48	51	49 – 53	24	23 – 24	Erosion of natural deposits; natural hot springs
<1	<1	<1	<1	<1	<1	Industrial discharge; erosion of natural deposits
200	80 – 270	210	84 – 270	100	98 – 110	Erosion of natural deposits
<1	<1 – 1	<1	<1 – 1	<1	<1	Naturally present in the environment
20	19 – 20	21	21	11	11	Erosion of natural deposits
NR	<2 – 2.5	NR	<2	NR	<2 – 2	By-product of chloramination
8.1	7.9 – 8.6	8.1	7.9 – 8.4	8.3	7.9 – 8.4	Naturally-occurring dissolved gases and minerals
NT	NT	NT	NT	NT	NT	Erosion of natural deposits, agricultural run-off
3.9	3.7 – 4.1	4	4	2.4	2.3 – 2.5	Erosion of natural deposits
<100	<100	<100	<100	<100	<100	Decay of natural deposits
NT	NT	NT	NT	NT	NT	Erosion of natural deposits
78	74 – 82	80	80 – 81	48	43 – 53	Erosion of natural deposits
2.3 (a)	1.8 – 2.6	2.4 (a)	2.0 – 2.7	1.9 (a)	1.7 – 2.1	Erosion of natural deposits
<3	<3	<3	<3	<3	<3	Erosion of natural deposits

Mulholland Memorial Fountain

City of Los Angeles Historic-Cultural Monument No. 162.

Dedicated on August 1, 1940, the Mulholland Memorial Fountain is one of the City's most beloved water features. This city landmark commemorates the life and work of William Mulholland, LADWP's first water superintendent and chief engineer responsible for the construction of the Los Angeles Aqueduct. The Los Angeles Aqueduct is considered an engineering marvel that, since 1913, has brought water from the Eastern Sierras and Owens Valley to Los Angeles on gravity alone.

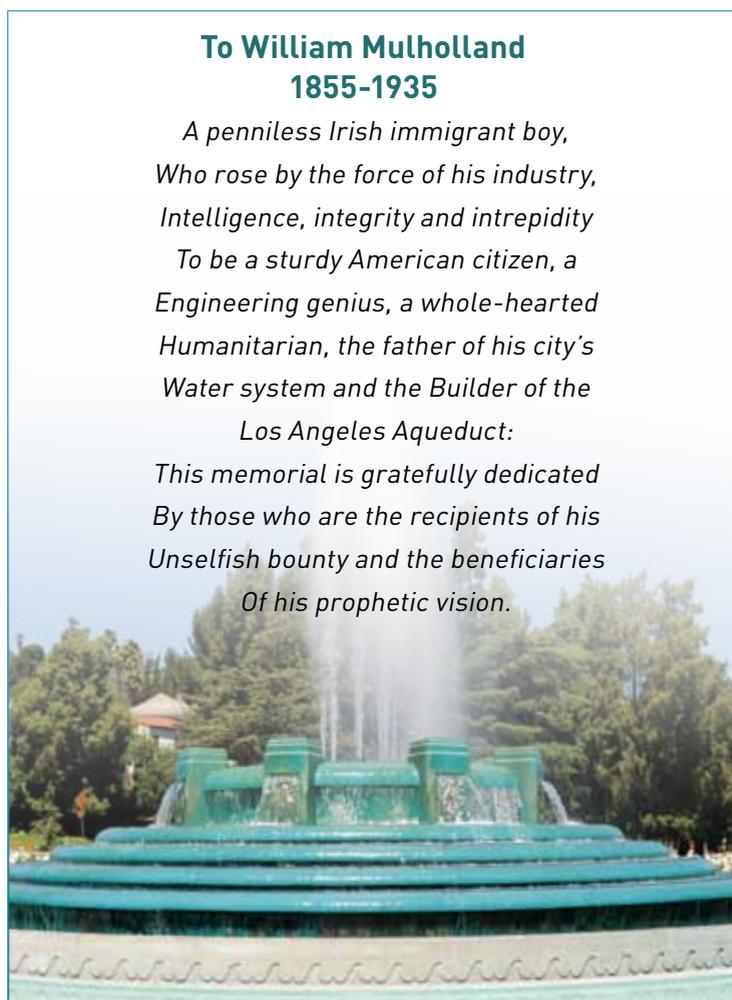
Located on the corner of Los Feliz Boulevard and Riverside Drive, the Mulholland fountain features a 90-foot-diameter reflecting pool and colorful night lights. It was designed by Walter S. Clayberg and constructed by LADWP crews for \$30,000. In 1976, the Mulholland Fountain was declared a City of Los Angeles Historic-Cultural Monument No. 162.

This year marks the 100th anniversary of the Los Angeles Aqueduct. In preparation for this year's centennial celebration, the LADWP has completely renovated and restored this beloved fountain.

The inscription from the memorial plaque at the site of the fountain best illuminates the city's overriding sentiment toward one of its early visionaries.

To William Mulholland 1855-1935

*A penniless Irish immigrant boy,
Who rose by the force of his industry,
Intelligence, integrity and intrepidity
To be a sturdy American citizen, a
Engineering genius, a whole-hearted
Humanitarian, the father of his city's
Water system and the Builder of the
Los Angeles Aqueduct:
This memorial is gratefully dedicated
By those who are the recipients of his
Unselfish bounty and the beneficiaries
Of his prophetic vision.*





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About This Report

The Drinking Water Quality Report is prepared by the Los Angeles Department of Water and Power on an annual basis. This report is a requirement of the California Department of Public Health and is prepared in accordance with their guidelines. This report was prepared, printed and mailed to you at a cost of 38 cents. This is the last year the Drinking Water Quality Report will be mailed to you. Starting in 2014, a notice will be included in your customer bill advising that the 2013 report is available for viewing at www.ladwp.com/waterqualityreport. Customers can still request a printed copy to be mailed by calling 1-800-DIAL DWP.

Contact Information

LADWP, the largest municipal utility in the nation, was established more than 100 years ago to provide a reliable and safe water and electric supply to the City's 4 million residents and businesses.

LADWP is governed by a five-member Board of Water and Power Commissioners, appointed by the Mayor and confirmed by the City Council. The Board meets regularly on the first and third Tuesdays of each month at 1:30 p.m. Meetings are held at:

Los Angeles Department of Water and Power
111 North Hope Street, Room 1555H
Los Angeles, CA 90012-2694

The meeting agenda is available to the public on the Thursday prior to the week of the meeting. You can access the Board agenda at www.ladwp.com or by calling (213) 367-1351.

For general information about LADWP, call 1-800-DIAL DWP (1-800-342-5397) or visit www.ladwp.com.

For questions regarding this report, please call Mr. Nathan Aguayo at (213) 367-4941 or email at Nathan.Aguayo@water.ladwp.com.

Want to know more about your drinking water and related regulations?

Los Angeles Department of Water and Power
www.ladwp.com

California Department of Public Health (CDPH)
www.cdph.ca.gov

U.S. Environmental Protection Agency (USEPA)
www.epa.gov

LADWP's website has a wealth of information specific to improving water quality in your home. If you have specific water quality questions or problems, you should call anytime at 1-800- DIAL-DWP or contact us on the web at www.ladwp.com.

Here are some useful links for more information on home water filters:

<http://www.consumerreports.org/cro/home-garden/kitchen/water-filters/index.htm>

<http://www.nrdc.org/water/drinking/gfilters.asp>

For more information about the NSF certification, call (800) 673-8010 or visit www.nsf.org.

For more information about CDPH certification, call (916) 499-5600 or visit www.cdph.ca.gov.

This Message is for Non-English Speaking Customers

This report contains important information about your drinking water. If you have any questions regarding this report, please contact us at (800) 342-5397.

Spanish

Este informe contiene información importante sobre su agua potable. Si tiene alguna pregunta sobre este informe, por favor comuníquese con nosotros llamando al (800) 342-5397.

Farsi (Persian)

این اطلاعیه شامل اطلاعات مهمی راجع به آب آشامیدنی است. اگر نمیتوانید این اطلاعات را به زبان انگلیسی بخوانید لطفاً از کسی که میتواند یاری بگیرد تا مطالب را برای شما به فارسی ترجمه کند.

French

Cé rapport contient des information importantes concernant votre eau potable. Veuillez traduire, ou parlez avec quelqu' un qui peut le comprendre.

Tagalog

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

Greek

Η κατορθεν αναφορα παρουσιαζει σπουδαιες πληροφορειες για το ποσιμο νερο σας. Πρακακλω να το μεταφρασετε η να το σξολειασετε με καποιον που το καταλαβαινη απολητως.

Gujarati

આ અહેવાલ આપના પીવાના પાણી વિશે અગત્યની માહિતી ધરાવે છે. તેનું ભાષાંતર કરો, અથવા તે સમજાવું હોય તેવી કોઈ વ્યક્તિ સાથે વાત કરો.

Hebrew

הדו"ח הזה מכיל מידע חשוב לגבי מי השתייה שלך. תרגם את הדו"ח או דבר עם מישהו שמבין אותו.

Hindi

यह सूचना महत्वपूर्ण है ।
कृपा करके किसी से :सका अनुवाद कराये ।

Hungarian

Ez a jelentés fontos információt tartalmaz az Ön által fogyasztott ivóvízről. Fordítsa le, vagy beszéljen valakivel, aki megérti

Italian

Questo rapporto contiene informazioni importanti che riguardano la vostra acqua potabile. Traducetelo, o parlate con una persona qualificata in grado di spiegarvelo.

Japanese

この情報は重要です。
翻訳を依頼してください。

Arabic

”هذا التقرير يحتوي على معلومات مهمة تتعلق بمياه أو الشرب.
ترجم التقرير، أو تكلم مع شخص يستطيع أن يفهم التقرير.“

Yiddish

דער רעפארט גיט איבער וויכטיקע אינפארמאציע וועגן אייער טרינקוואסער.
עצט עס איבער, אָדער רעדט מיט עמעצן וואָס קען עס פֿאַרשטיין.

Khmer (Cambodian)

របាយការណ៍នេះមានព័ត៌មានសំខាន់ៗ
សំអ័ត្តិទឹកបរិភោគ ។ សូមបកប្រែ
ឬពិគ្រោះជាមួយអ្នកដែលមើលយល់
របាយការណ៍នេះ ។

Korean

이 안내는 매우 중요합니다.
본인을 위해 번역인을 사용하십시오.

Polish

Ta broszura zawiera ważne informacje dotyczące jakości wody do picia. Przetłumacz zawartość tej broszury lub skontaktuj się z osobą która pomoże ci w zrozumieniu zawartych informacji.

Portuguese

Este relatório contém informações importantes sobre a água que você bebe. Traduza-o ou converse a respeito dele com alguém que entenda o documento.

Russian

Этот отчет содержит важную информацию о вашей питьевой воды. Переведите его или поговорите с тем, кто это понимает.

Serbo-Croatian

Ovaj izvještaj sadrži važne informacije o pitnoj vodi. Prevedite ga ili neka vam netko ko razumije jezik, pročita i objasni.

German

Dieser Bericht enthält wichtige Information über Ihr Trinkwasser. Bitte übersetzen Sie ihn oder sprechen Sie mit jemandem, der ihn versteht.

Urdu

اس رپورٹ میں آپ کے پینے کے پانی کے بارے میں اہم معلومات ہے۔ اس کا ترجمہ کریں، یا کسی ایسے شخص سے بات کریں جو اسے سمجھ سکے۔

Vietnamese

Chi tiết này thật quan trọng.
Xin nhờ người dịch cho quý vị.

Armenian

Այս հաշվետվությունը պարունակում է կարևոր տեղեկատվություն ձեր խմելու ջրի մասին:
Թարգմանե՛ք այն, կամ խոսե՛ք որևէ մեկի հետ, ով հասկանում է դրա բովանդակությունը:

Chinese

此份有关你的食水报告,内有重要资料和讯息,请找他人为你翻译及解释清楚。



2012 Drinking Water Quality Report
 Los Angeles Department of Water and Power
 P.O. Box 51111 Room 1213
 Los Angeles, California 90051-0100

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L.A. Aqueduct Centennial 2013

Our Legacy. Our Future.

For a century, William Mulholland's great engineering achievement has brought water to Los Angeles from hundreds of miles away in the Owens Valley.

The dedication of the Los Angeles Aqueduct Cascades on November 5, 1913, marked one of the most significant events in the city's history and is forever linked to the growth and prosperity of Los Angeles and all of Southern California.

To learn more about the L. A. Aqueduct Centennial, its legacy and our water future, please visit www.laaqueduct100.com and join the conversation on Facebook and Twitter.

www.facebook.com/LAsWaterFuture  [#LAA100](https://twitter.com/LAA100) 