



# Drinking Water Quality Report 2019

For the period of January 1 through December 31, 2019

[ladwp.com/waterqualityreport](http://ladwp.com/waterqualityreport)







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# WATER QUALITY: YOUR TAP WATER IS GREAT!



**A Message from  
Razmik Manoukian**

**Director of Water Quality**

First and foremost, I want to assure you, that the water delivered to your tap continues to be of the highest quality and is 100 percent safe to drink. Despite the pandemic of COVID-19, there is no threat to your public drinking water supply and no need to use bottled water. LADWP's treatment processes are specifically designed to protect the public from all viruses and harmful bacteria. Our drinking water supply undergoes proven scientific techniques and treatments before it reaches your tap, including ozonation, filtration, ultraviolet light and chloramine disinfection.

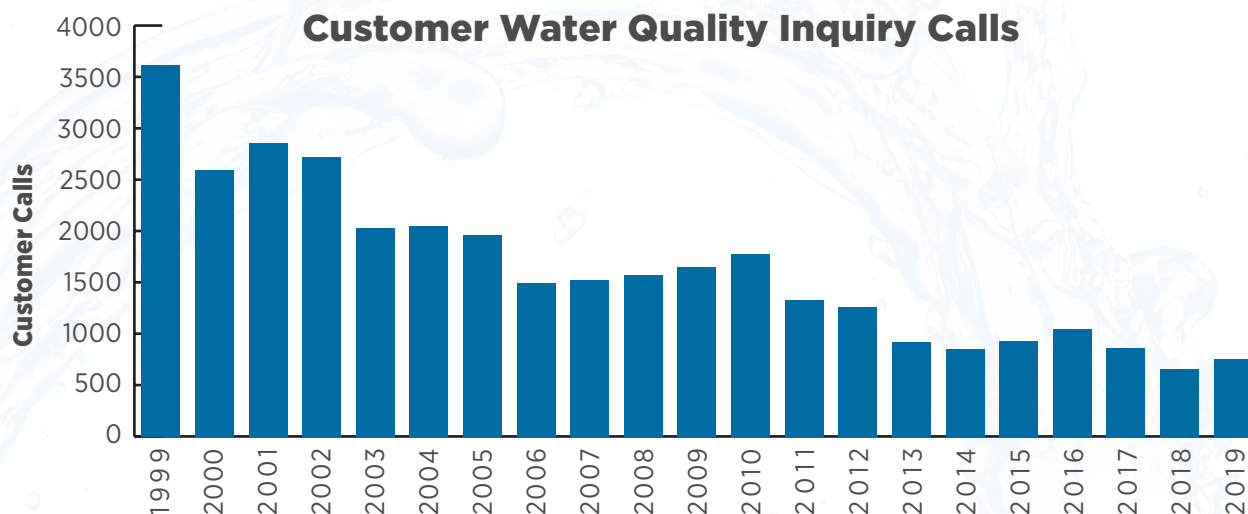
The annual Drinking Water Quality Report for 2019 demonstrates the successful performance of these processes and protocols along with our thoroughness and commitment to providing a clean reliable water supply to the residents of Los Angeles. The U.S. Environmental Protection Agency (US EPA) and the State Water Resources Control Board, Division of Drinking Water (SWRCB-DDW) require that all water agencies produce an annual report informing customers about the quality of their drinking water from the previous year. We tested for over 220 constituents and performed more than 124,000 tests on samples taken throughout our vast distribution system.

Analyses of these samples are undertaken at our Water Quality Laboratory.

As you read through this report, you will find references to tables that depict the actual levels of specific substances or "constituents" we have found in the city's water supply. Looking at the tables, I am proud that all regulated constituents detected were at very low levels. In fact, our water quality performance was at least 50 percent better than safety levels set by the US EPA and SWRCB-DDW. Out of the 120 constituents we are required to monitor, none were found at levels considered unsafe by health agencies and only 25 were detected at very low levels as listed in Tables I and II.

We are proud to share our water quality success with you. We are especially pleased with our continued progress on several large water quality initiatives. Over the last 20 years, LADWP has actively improved water quality for our customers by removing large uncovered reservoirs out of service, cement lining pipelines and improving water treatment systems. As a result of these water quality improvement initiatives, water quality related customer inquiries have declined by 75 percent (please see 1999-2019 Customer Water Quality Inquiry Calls chart below). We are proud to bring high quality refreshing tap water to all our customers across the city—at home, at work and in our neighborhood parks every day no matter the situation.

We are also committed to customer service. If you have any questions or concerns about your water quality or need advice on how to improve the taste or appearance of water at your home or workplace, please do not hesitate to call our Water Quality Hotline at (213) 367-3182.





# LOS ANGELES IS WATER STRONG



## A Message from Richard Harasick

### LADWP Senior Assistant General Manager, Water System

As the largest municipal utility in the nation, our main focus at LADWP is to safeguard and protect the city's water supply no matter the situation. We have always taken this responsibility seriously and have provided Los Angeles with high quality, reliable water for over 100 years. This has never been more important than right now as we respond to a worldwide pandemic. Viruses are just one of the many things our water system is more than capable of handling, thanks to scientifically proven filtration and treatment methods and a robust infrastructure. The following report demonstrates our continued commitment to provide you with clean, reliable water at your tap. I want to assure you that we will continue being vigilant and committed to multiple initiatives so that our city continues to be Water Strong.

Toward that goal, we are on target to complete construction of two state-of-the-art facilities to further improve our water quality and comply with new regulations. One is the Los Angeles Reservoir Ultraviolet Disinfection Facility, the second UV facility in our system and the second largest in the United States. It will provide a multi-barrier water disinfection approach to meet regulatory requirements. The second facility is Headworks Reservoir West. This new reservoir will store and supply 60 million additional gallons of clean drinking water.

Delivery of high quality water also requires resilient and reliable infrastructure. As such, we continue to upgrade and strengthen our distribution system through multiple improvement projects that are underway. This includes replacement of aging pipe and continued maintenance of tanks and reservoirs. We also continue to build a seismically resilient water pipe network, which will serve as a major backbone in our water system, to improve reliability.

As a world class city, Los Angeles must continue improving, innovating and setting the example. At LADWP, we continue to work on a sustainable water supply. We currently import nearly 90 percent of our water from hundreds of miles away. As stated in the City of Los Angeles' Green New Deal Sustainable City pLAn, we are committed to increasing our local water supplies to 70 percent which will greatly decrease our dependence on imported purchased water. These local supplies include groundwater recharge, stormwater capture, additional conservation, and a 100 percent water recycling—initiatives that are central to securing a sustainable, reliable, and resilient water supply for the city.

In an effort to promote drinking water and build consumer confidence, we are partnering with multiple city agencies to install or refurbish 200 hydration stations throughout L.A. parks and municipal facilities. These fountains increase access to L.A.'s high quality safe drinking water while on the go and help reduce the use of single-use plastic bottles.

Our challenges are many, now more than ever, but our employees are committed to providing you with clean, safe drinking water that you can depend on. They themselves are taking precautions to stay healthy, stay on the job and continue their vital service of providing water and following through on all our initiatives. Together, with your support, we will remain Water Strong.



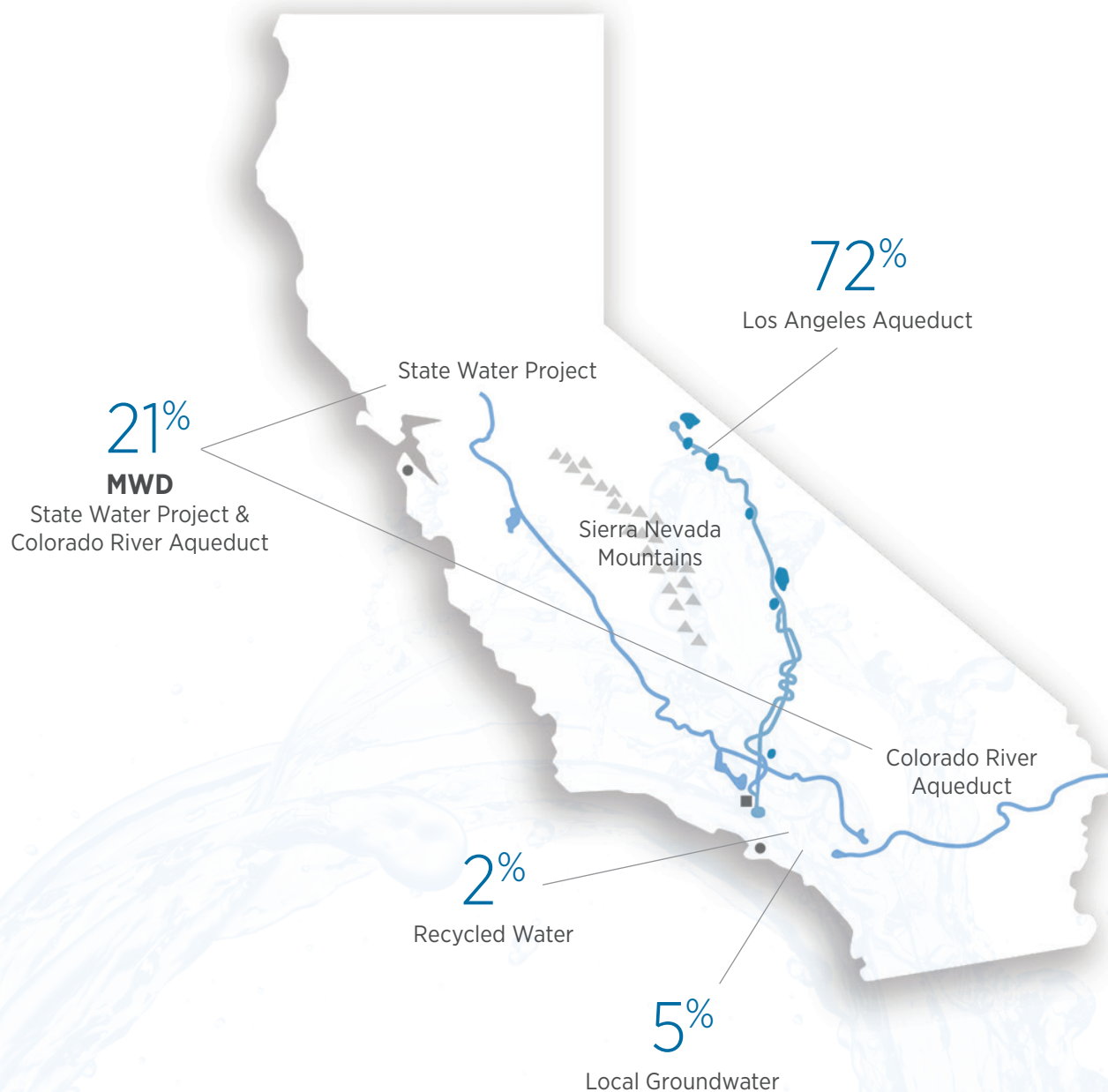
The Headworks Reservoir complex that includes Headworks East and West, stores a total of 110 million gallons of drinking water for Los Angeles and was built to meet water regulatory requirements.



# L.A.'S WATER SOURCES IN 2019

Los Angeles received most of its water in 2019 from the city's own Los Angeles Aqueduct (LAA). Approximately 72 percent of the water was transported through the LAA and treated at the Los Angeles Aqueduct Filtration Plant.

Purchased imported water from the Metropolitan Water District (MWD) amounted to 21 percent. The remaining amount was sourced from local groundwater at 5 percent and recycled water at 2 percent.





## Drinking Water and Your Health

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.

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 visiting the US EPA website at [www.epa.gov/safewater](http://www.epa.gov/safewater).

### Health Advisory for People with Weakened Immune Systems

Although LADWP treats its water to meet drinking water standards, some people may be more vulnerable to constituents in drinking water than the general population. Immuno-compromised 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 individuals should seek advice about drinking water from their health care providers. US EPA 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 US EPA at [www.epa.gov/safewater](http://www.epa.gov/safewater).

## Contaminants That May Be Present

Water agencies are required to use the following language to discuss the source of contaminants that may reasonably be expected to be found in drinking water, including tap and bottled water.

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 that 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 that can be naturally-occurring or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the US EPA and SWRCB prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration (FDA) regulations also establish limits for contaminants in bottle water that provide the same protection for public health.





# BOTTLED WATER VERSUS TAP WATER

In support of the City of Los Angeles' Green New Deal Sustainable City pLAn, which calls for increasing public access to drinking water, promotion of tap water, and reduction of single-use plastic water bottles, LADWP launched a Hydration Station Initiative Program (HSIP).

The HSIP is a partnership between LADWP, the Los Angeles Department of Recreation and Parks, and the Los Angeles Department of General Services. The goal is to refurbish or install 200 hydration stations (drinking fountains with bottle fillers) throughout the city at public parks and buildings, including LADWP Customer Service Centers by 2022 to encourage the use of refillable water bottles.

Here are some facts on bottled water vs. tap water in support of the HSIP:

## Regulation

Bottled water is regulated by the FDA under the Federal Food, Drug, and Cosmetic Act: Bottled Water/Carbonated Soft Drink. Bottled water quality is based on drinking water standards established by the US EPA. Bottlers must also

adhere to FDA's Current Good Manufacturing Practices, which requires sanitary conditions throughout the bottling process from source to distribution. For more information, go to the [FDA's website](#). Once on the store shelf, however, bottled water has very little oversight, expiration date notwithstanding. More details are available on the [FDA's webpage about Bottled Water/Carbonated Soft Drinks Guidance Documents & Regulatory Information](#).

The US EPA regulates public drinking water supplies, as required, by the [Safe Drinking Water Act](#) detailed on the [US EPA's webpage](#). Tap water is required to meet strict federal and state regulations for safety and quality. Public water systems are required to routinely test the water and report test results to consumers in an annual Drinking Water Quality Report. LADWP's Drinking Water Quality Report is available on [LADWP's Water Quality webpage](#). In the event of an incident that may compromise the water supply and pose a health risk, municipal water agencies have strict public notification requirements. For information on the notification process in California, visit [SWRCB's webpage for Templates for Public Notifications](#).





The 2019 Tap Water Day event celebrated our city's complex water planning, treatment, and monitoring infrastructure as a focal point of civic pride.

## Quality

Bottled water can be processed to varying degrees. Some bottlers use certain types of water treatments that allow the water to be labeled as “purified water.” However, some research has shown that bottled water may absorb chemicals, such as phthalates, from the plastic bottle and trace amounts of chemicals may be introduced into the water during the production process. For more information, see related articles in the [International Journal of Environmental Research and Public Health](#) entitled “Phthalate Esters and Their Potential Risk in PET Bottled Water Stored under Common Conditions,” and in the [European Food Research and Technology](#) entitled “Non-intentionally added substances in PET bottled mineral water during the shelf-life.”

LADWP tap water is treated with ozonation, filtration, and UV disinfection. Chloramine is added to provide lasting disinfection throughout the distribution system. LADWP, as all municipal water systems, is required to test the tap water at the source, before and after treatment, and in the distribution system on a routine basis. Tap water actually serves as the source for most bottled water.

## Cost

Bottled water is significantly more expensive than tap water. The cost per gallon varies from \$1.30 to as much as \$14.00. At the highest rate charged by LADWP, a gallon of

water costs 1.3 cents (\$0.013). Therefore, using a reusable (preferably non-plastic) water bottle would pay for itself in less than a week.

## Taste

Many water bottlers treat tap water to remove all minerals and constituents. After treatment, bottlers add a measure of blended minerals to give the water some flavor. Some bottled waters are flavored with fruit essences and other compounds. In comparison, tap water derives its flavor from the source. Chilling the water may enhance its taste. You can also flavor your water with fruit or vegetable slices.

## Environmental Impact

Most bottled water comes in plastic, which is made from petroleum products. Even the brands of water that are distributed in glass bottles still have a significant carbon footprint.

By drinking tap water and using reusable water bottles, we can work to eliminate plastic waste that ends up in landfills and the environment. For more information, please see the article “[Plastic waste inputs from land into the ocean](#)” in [Science](#).

To learn more, visit [DrinkTap.org's webpage of FAQs on bottled water](#).





# THE GREAT COMEBACK OF THE PUBLIC DRINKING WATER FOUNTAIN

**By Albert Rodriguez**

Feature article also published on LADWP's [Intake Magazine](#)

Long revered as a symbol of health, civic pride and a champion of public space, the urban drinking water fountain has seen tough times in recent years. The advent and saturation of single-use plastic water bottles and sugary drinks have denigrated the once noble water fountain to a weathered, barely functioning object of curiosity in parks and schools.

Today, all that is changing, as LADWP moves forward with a multi-faceted initiative to make Los Angeles one of the most sustainable cities in the world. We have plans to install or refurbish 200 drinking water fountains, more recently referred to as hydration stations, citywide by 2022 for the enjoyment and health of all residents and visitors in the city. LADWP will partner with the City's departments of Recreation and Parks and General Services to install, refurbish and maintain the hydration stations.



## L.A.'s Tap Water, by the Numbers

1 state-of-the-art filtration plant

2 aqueducts

84 pump stations,

118 tanks and reservoirs,

328 pressure regulator and relief stations  
(controls water pressure)

560 miles of trunk lines  
(pipes greater than 20 inches in diameter)

6,780 miles of distribution mainlines  
(20 inches in diameter or less)

120,000 water quality tests performed on  
samples taken throughout the city annually

The concerted effort to increase access to clean drinking water and decrease reliance on single-use plastic water bottles is one way LADWP can promote a more sustainable, healthier future for customers and the communities we serve. According to the US EPA, nearly 50 million plastic water bottles are purchased and discarded every year across the U.S. with only 30 percent getting recycled. This is in addition to the environmental impacts created and the resources used to manufacture, package, and distribute these bottles.

It is only fitting that a world-class city like Los Angeles promote its drinking water and public hydration stations in much the same way that Rome, Tokyo or Paris do. Locals in those cities use their *nasonis*, *mizu nomi ba*, and *fontaines d'eau potable* every day. In contrast, many people here in L.A. don't realize that bottled water is largely unregulated while LADWP's tap water meets all federal and state drinking water regulations.

"The new and refurbished hydration stations will remind Angelenos of the importance that clean drinking water plays in our lives, our health and our connection to the environment," said Razmik Manoukian, LADWP Director of Water Quality. "With LADWP's comprehensive planning, robust treatment and monitoring infrastructure, our drinking water is clean and reliable and should be a focal point of our civic pride as it is in many other prominent cities."

The new hydration stations will be placed at a variety of locations throughout the city where individuals can fill up reusable water bottles with clean, refreshing tap water. All hydration stations will feature reusable water bottle filling stations and some outdoor stations will include spigots to fill water bowls for pets.

Public hydration stations have already been placed at Balboa Park, L.A. City Hall East, and at LADWP's own John Ferraro Building. In addition to the installation at large municipal buildings and at parks, LADWP is working to install or refurbish hydration stations at our customer service centers and employee facilities.

As the city prepares for the 2028 Olympics, LADWP will be working to strategically place hydration stations in areas that are anticipated to have large gatherings of spectators and participants. These stations will provide an alternative to sugary drinks and help promote the benefits of drinking water. LADWP counterparts at Eau de Paris (Paris Water) are currently preparing for the 2024 Olympics and have over 1,200 hydration stations throughout their city.

"We are working closely with our friends in Paris to learn from their experience and efforts," said Serge Haddad, Section Manager in LADWP's Water Quality Division. "The Olympics is a world stage where people witness the best athletes competing for medals and it is the perfect opportunity to put L.A. water on that highest podium and share why it is the gold standard in quality."

Moreover, LADWP is looking to expand the Hydration Station program by establishing partnerships with commercial customers and other agencies such as LAUSD. Educating children on the benefits of L.A.'s drinking water is critical to achieving the city's sustainability goals for future generations.

L.A.'s drinking water is safe and treated to the highest quality. So drink up, and drink with confidence!





# REGULATORY COMPLIANCE HOW DID WE MEASURE UP?

We work around the clock to ensure that the drinking water we deliver to our customers is of the highest quality and meets all safety requirements. Highly trained, certified treatment operators monitor our water treatment operations continuously, thereby helping meet federal and state standards for drinking water. In 2019, we tested for more than 220 constituents in the water and performed more than 124,000 tests on samples taken throughout our water system. LADWP received no violations and met all primary drinking water standards in 2019.

## PFAS and Drinking Water

Poly- and Perfluoroalkyl Substances (PFAS) are a group of synthetic (man-made) chemicals which include Perfluorooctanoic acid (PFOA) and Perfluorooctanoic sulfonic acid (PFOS). PFOA and PFOS have been used to make consumer products stain-resistant, water-proof, and non-stick. Most U.S. manufacturers voluntarily phased out production of PFOS between 2000 and 2002, and PFOA in 2006.

Studies indicate potential health consequences from exposure to significant levels of PFAS. Health effects may include high cholesterol, liver and thyroid cancer risks, immunotoxicity, pregnancy-induced hypertension, low birth weights, and decreased fertility. More information is available on [US EPA's webpage on Drinking Water Healthy Advisories for PFOA and PFOS](#).

The SWRCB-DDW established separate health-based Notification Levels (NLs) for PFOA and PFOS at 5.1 parts per trillion (ppt) and 6.5 ppt, respectively. NLs are a non-regulatory, precautionary health-based measure for concentrations of substances in drinking water that warrant notification and further monitoring and assessment. More stringent regulations for PFAS are being investigated. SWRCB-DDW has requested that the California Office of Environmental Health Hazard Assessment begin the process to develop public health goals for PFOA and PFOS and the next step will be establishing regulatory standards, maximum contaminant levels in drinking water.



LADWP began testing for PFAS, including PFOA and PFOS, in 2013-14. LADWP continues to monitor its local groundwater sources for PFAS, including PFOA and PFOS. After analyzing hundreds of samples utilizing the approved test methods, LADWP has not found contamination issues in its water supplies. The vast majority of samples analyzed have tested below the health advisory and notification levels for PFOA and PFOS. Although PFAS were detected in a few samples from individual wells, no single well represents water provided to our customers. Water from individual wells is blended with water from other wells, and is further diluted by blending with superior volumes of surface water before entering the distribution system. Customers can be confident that LADWP is providing high quality drinking water.

If you have questions, please contact our Water Quality Hotline at (213) 367-3182 or email us at [waterqualityoffice@ladwp.com](mailto:waterqualityoffice@ladwp.com).

## Compliance with the Lead and Copper Rule (LCR) in Los Angeles

LADWP has a long and successful history of controlling corrosion and minimizing lead exposure to customers. Between 1978 and 2006, LADWP cleaned and cement-lined approximately 2,600 miles of unlined iron pipes four inches in diameter and greater. Since 1994, LADWP has been dedicated to replacing its utility portion of galvanized iron service lines. The number of galvanized service lines in its inventory decreased from approximately 45,000 in 1994 to about 18,000 in 2018. LADWP initiated another program in 1998 to replace low-lead (8% lead) water meters with lead-free (0.25% lead) water meters. There are currently over 700,000 active water meters in LADWP's water distribution system, and approximately 31,500 meters are being replaced annually. As of January 2019, approximately 450,500 (63%) water meters have been replaced. In another proactive effort, LADWP's staff had located and removed approximately 12,000 known lead goosenecks from its water distribution system by the year 2005. By July of 2018, LADWP completed an inventory of its remaining unknown utility-owned services lines—none consisted of lead material.

LADWP most recently conducted LCR residential sampling in 2019. During the sampling program, 104 first draw samples were obtained from customers' homes and analyzed at the water quality laboratory in Pasadena. The results showed a 90th percentile of 4.3 ppb (parts per billion) for lead and 350 ppb for copper. Both values were below the respective Action Levels of 15 ppb for lead and 1300 ppb for copper.

## LCR Program Requirements

The LCR sampling program focuses on single family residences which were built within 1982 to 1987 that have copper pipes plumbed with lead solder. Customers with

qualifying homes that participate in the sampling program will get their tap water tested for lead and copper at no cost.

**Customers who think their home may qualify can participate in LADWP's next round of LCR sampling between June and September 2020. Contact the Water Quality Hotline at (213) 367-3182.**

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is also available from the Safe Drinking Water Hotline (800) 426-4791, or at [www.epa.gov/lead](http://www.epa.gov/lead).

## Voluntary Lead Testing of Drinking Water at Public and Private K-12 Schools

In January 2017, the SWRCB-DDW amended LADWP's domestic water supply permit to include a voluntary program to test for lead in drinking water at California public and private K-12 schools within its service area. Written requests were accepted until November 1, 2019, the program end date, from Los Angeles Schools. LADWP received and processed 24 requests from schools. No school had lead levels above the Action Level of 15 parts per billion. The breakdown of the samples results are as follows:

Total Samples Tested: 76

Non-Detect Results: 57

Above Action Level: 0

Maximum Result: 6.3 ppb

Average Result: 0.58 ppb

## AB 746 Requires Lead Testing in California Public K-12 Schools

California Assembly Bill 746, which was effective January 1, 2018, required community water systems to test for lead in drinking water at California public K-12 schools within their service area by July 1, 2019. Under the lead testing program, all public K-12 schools must participate in lead testing unless they can show that their school was constructed or their plumbing was replaced after December 31, 2009, and that they have conducted equivalent lead testing after January 1, 2009 and posted the results on their website. Between 2018 and 2019, LADWP completed sampling for 109 schools within our service area. Of the 95 schools tested in 2019, only three schools had results that exceeded the Action Level of 15 parts per billion. These three exceedances were



remedied by the schools. All remaining schools had results that were below the Action Level. The final results of the testing are included as follows. If you have any questions regarding this program, call the LADWP Water Quality Hotline at (213) 367-3182.

Total Samples Tested: 188

Non-Detect Results: 105

Above Action Level: 3

Maximum Result: 42 ppb

Average Result: 1.39 ppb

## Assessment Programs for Surface and Groundwater Resources

Source water assessment updates are required by the SWRCB-DDW and must be included in the annual drinking water quality report. LADWP completed an initial source water assessment in 2002 and is required to provide an updated assessment every five years through a watershed sanitary survey. Watershed sanitary surveys examine possible contamination to sources of drinking water and recommends actions to better protect these water sources.

Below is an update of LADWP's source water assessment.

### Surface Supply:

In 2015, LADWP completed an assessment of the Owens Valley and Mono Basin watersheds that supply the Los Angeles Aqueduct. These sources are most vulnerable to geothermal activities that release naturally occurring arsenic into creeks which feed the Owens River. Other activities that impact water quality in these watersheds are livestock grazing, wildlife, and unauthorized public use of storage reservoirs. The impact to water quality from these activities is deemed to be minimal.

LADWP regularly monitors for *Cryptosporidium* and *Giardia*. Results indicate that their presence is infrequent and remain at very low levels.

### Groundwater Supply:

Assessment of groundwater sources in the San Fernando and Sylmar Basins was updated in 2013. Assessment of groundwater sources in the Central Basin was updated in 2016. Located in highly urbanized areas, the wells within these aquifers are most vulnerable to the following activities: dry cleaning, manufacturing, metal finishing, septic systems, chemical processing, and storage of fertilizer, pesticides, and chemicals. These local water supplies are treated and blended with water from other sources to ensure compliance with drinking water standards.

### Purchased Imported Supplies from MWD:

The most recent surveys for Metropolitan Water District's (MWD) source waters are the Colorado River Watershed Sanitary Survey – 2015 Update, and the State Water Project Watershed Sanitary Survey – 2016 Update. Each source water used by MWD — the Colorado River and State Water Project — has different water quality challenges. Both are exposed to stormwater runoff, recreational activities, wastewater discharges, wildlife, fires and other watershed-related factors that could affect water quality. Treatment to remove specific contaminants can be more expensive than measures to protect water at the source. This is why MWD and other water agencies invest resources to support improved watershed protection programs.

Three of the five MWD treatment plants: F.E. Weymouth, Robert B. Diemer and Joseph Jensen supply water to the Los Angeles area. MWD tests its water for nearly 400 constituents and performs about 250,000 water quality tests per year on samples gathered from its vast distribution system. Analysis of these samples is undertaken at Metropolitan's state-of-the art water quality laboratory. Results from MWD are provided to LADWP and are included in the report on Tables I, II and III.

### Safeguarding our Surface Water

Administered by the SWRCB-DDW, the Surface Water Treatment Rule (SWTR) is a set of drinking water regulations that establish specific treatment requirements for surface water to reduce the risk of waterborne diseases.

The last update to the SWTR is the Long Term 2 Enhanced Surface Water Treatment Rule (LT2). This rule protects treated water reservoirs from microbiological contamination by requiring one of three actions: 1) covering, 2) removing from service, or 3) providing additional treatment. LT2 applied to the six remaining uncovered reservoirs at the time: Los Angeles, Upper Stone Canyon, Santa Ynez, Ivanhoe, Silver Lake, and Elysian.

In March 2009, a Compliance Agreement for LT2 was executed between LADWP and SWRCB-DDW. The Los Angeles Reservoir is the only remaining reservoir awaiting completion of additional treatment.

Los Angeles Reservoir will remain in compliance with the LT2 through a combination of shade balls and construction of a new ultraviolet (UV) treatment plant. The "shading" of the reservoir was completed in 2015 with nearly 96 million shade balls deployed. The new UV treatment facility will disinfect water leaving the Los Angeles Reservoir to satisfy the LT2 water quality regulation. Construction began in June 2017 and will be completed July 2021.

Visit [LADWP's Water Quality webpage](#) to learn more about water quality projects and issues.



# WATER QUALITY SERVICE AREAS IN LOS ANGELES

## San Fernando Valley Communities

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

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

## Western Los Angeles Communities

Sources: Los Angeles Aqueduct and MWD State Water Project

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

## Eastern Los Angeles Communities

Sources: MWD State Water Project and Colorado River Aqueduct

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

## Central Los Angeles Communities

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

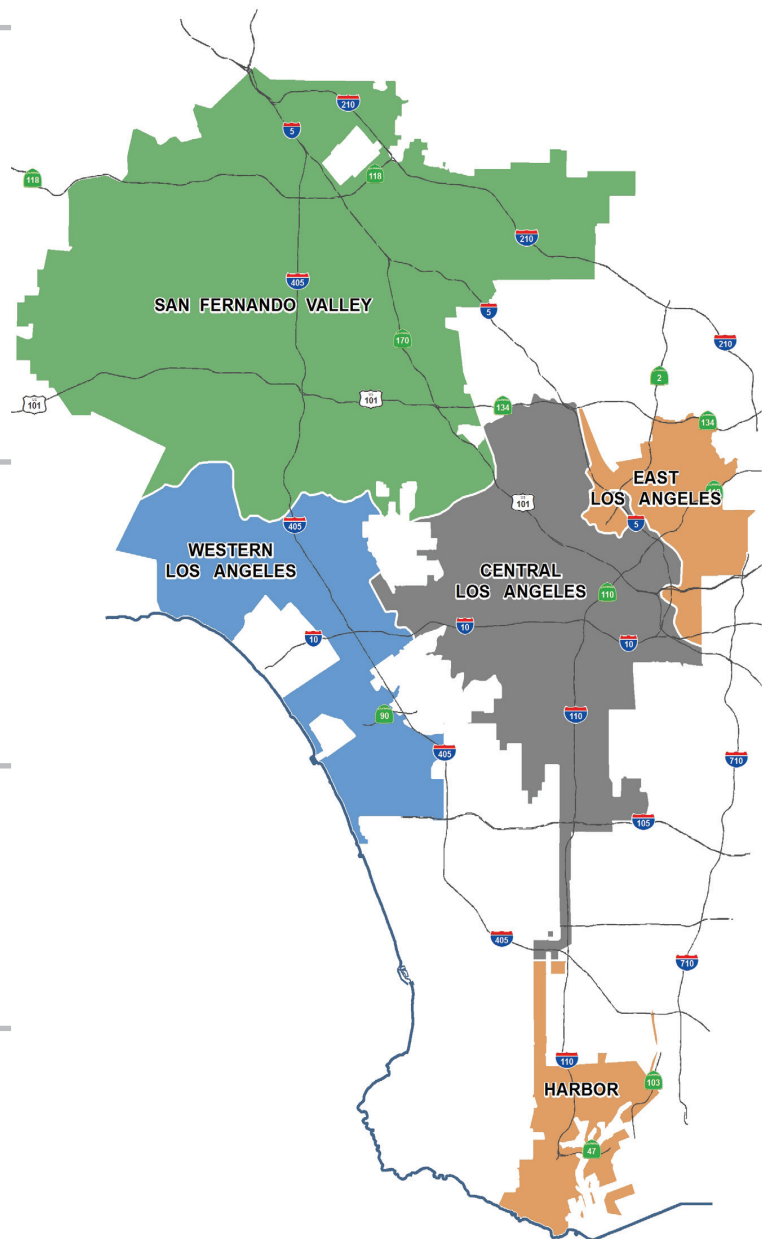
|                   |                  |                 |
|-------------------|------------------|-----------------|
| Baldwin Hills     | Hyde Park        | Park La Brea    |
| Chinatown         | Koreatown        | Rancho Park     |
| Country Club Park | L.A. City Strip* | Silverlake      |
| Crenshaw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

## Harbor Communities

Sources: MWD State Water Project and Colorado River Aqueduct

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

\*Portions of Sources of drinking water fluctuate throughout the area due to operational needs and source water availability





# 2019 DRINKING WATER QUALITY MONITORING RESULTS

Tables I, II and III list the results of water tests performed by the LADWP and MWD from January to December 2019. LADWP tests for over 220 substances. These tables include only substances with values that are detected.

## Terms used in 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.

**Federal Action Level (AL):** Concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. ALs are set by the US EPA.

**Federal Minimum Reporting Level (MRL):** Minimum concentration of a contaminant which can be detected in drinking water using analytical methods established by the US EPA. Data reported in Table IV reflect MRLs.

**Maximum Contaminant Level Goal (MCLG):** Level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the US EPA.

**Maximum Residual Disinfectant Level (MRDL):** 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):** Level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect

the beneficial use of disinfectants to control microbial contaminants. MRDLGs are set by the US EPA.

**Notification Level (NL):** Health-based advisory level established by SWRCB-DDW 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):** 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).

**Secondary Maximum Contaminate Level (SMCL):** Highest level a constituent allowed in drinking water that may affect the taste, odor or appearance. SMCLs are set by the US EPA.

**State Detection Limit (DLR):** A detected contaminant at or above its detection level for reporting purposes. DLRs are set by the SWRCB-DDW. Data reported in Tables I through III reflect DLRs.

**State Maximum Contaminant Level (MCL):** Highest level of a contaminant 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 MCL is based on the average of all samples collected throughout the year.

**Treatment Technique (TT):** 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 (cloudiness in water) and microbial contaminants from surface water. High turbidities may be indicative of poor or inadequate filtration.



## HOW TO READ THE TABLES

The substances 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 (LAAFP), the Northern Combined Wells (NCW), and the Metropolitan Water District (MWD) Jensen Plant columns.
- For Central Los Angeles Area – water test results are under the LAAFP and the Southern Combined Wells (SCW) columns.
- For Western Los Angeles Area – water test results are under the LAAFP columns.
- For Harbor/Eastern Los Angeles Area – water test results are under MWD Weymouth, Diemer, and Jensen Plants columns.

Some substances are reported on a City-wide basis as required by SWRCB-DDW.

## Abbreviations and Footnotes

**ACU** = apparent color unit

**CFU/mL** = colony-forming unit per milliliter

**<** = less than the detection limit for reporting purposes

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

**µS/cm** = microsiemens per centimeter

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

**NTU** = nephelometric turbidity units

**NA** = not applicable

**NR** = not reported

**NT** = not tested

**NUM/100 mL** = number per 100 milliliter

**%** = percentage

**pCi/L** = picocuries per liter

**TON** = threshold odor number



# TABLE I

## Calendar Year 2019 Water Quality Monitoring Results

### Health-based Primary Drinking Water Standards (MCLs) Substances Detected in Treated Water

| Substances                         | Major Sources in Drinking Water                                               | Units  | Meets Primary Standard (YES / NO) | State Primary Standard MCL    | State PHG | Los Angeles Aqueduct Filtration Plant |           | Northern Combined Wells |            | Southern Combined Wells |            | MWD Weymouth Plant |           | MWD Diemer Plant |           | MWD Jensen Plant |           |
|------------------------------------|-------------------------------------------------------------------------------|--------|-----------------------------------|-------------------------------|-----------|---------------------------------------|-----------|-------------------------|------------|-------------------------|------------|--------------------|-----------|------------------|-----------|------------------|-----------|
|                                    |                                                                               |        |                                   |                               |           | Average                               | Range     | Average                 | Range      | Average                 | Range      | Average            | Range     | Average          | Range     | Average          | Range     |
| Aluminum                           | Erosion of natural deposits; residue from surface water treatment processes   | µg/L   | YES                               | 1000                          | 600       | <50                                   | <50       | <50                     | <50        | <50                     | <50        | 122 (a)            | <50 - 110 | 124 (a)          | <50 - 65  | 58 (a)           | <50 - 290 |
| Arsenic                            | Erosion of natural deposits                                                   | µg/L   | YES                               | 10                            | 0.004     | 2.2 (a)                               | <2 - 2.5  | <2                      | <2 - 2.1   | <2                      | <2 - 2.1   | <2                 | <2        | <2               | <2        | <2               | <2        |
| Barium                             | Erosion of natural deposits                                                   | µg/L   | YES                               | 1000                          | 2000      | <100                                  | <100      | <100                    | <100       | <100                    | <100       | <100               | <100      | <100             | <100      | <100             | <100      |
| Bromate (b)                        | By-product of ozone disinfection; formed under sunlight for chlorinated water | µg/L   | YES                               | 10                            | 0.1       | 2.1 (a)                               | <1 - 2.4  | 1                       | <1 - 3     | 1.1                     | <1 - 2.9   | 1.9 (a)            | <1 - 8.1  | 2 (a)            | <1 - 5.9  | 5.6 (a)          | 1.6 - 8.4 |
| Fluoride                           | Erosion of natural deposits; water additive that promotes good dental health  | mg/L   | YES                               | 2                             | 1         | 0.7                                   | 0.4 - 0.8 | 0.7                     | 0.6 - 1.0  | 0.7                     | 0.6 - 0.9  | 0.7                | 0.6 - 0.9 | 0.7              | 0.1 - 0.9 | 0.7              | 0.4 - 0.8 |
| Gross Alpha Particle Activity (c)  | Naturally present in the environment                                          | pCi/L  | YES                               | 15                            | 0         | <3                                    | <3        | <3                      | <3         | <3                      | <3 - 4     | <3                 | <3        | <3               | <3        | <3               | <3 - 3    |
| Gross Beta Particle Activity (c)   | Naturally present in the environment                                          | pCi/L  | YES                               | 50                            | 0         | 3                                     | <3 - 4    | 4                       | <3 - 5     | 4                       | <3 - 5     | <3                 | <3        | <3               | <3        | <3               | <3        |
| Heterotrophic Plate Count Bacteria | Naturally present in the environment                                          | CFU/mL | YES                               | TT                            | none      | <1                                    | <1        | <1                      | <1         | <1                      | <1         | <1                 | <1 - 1    | <1               | <1 - 1    | <1               | <1 - 64   |
| Nickel                             | Runoff and leaching from natural deposits; discharge from metal factories     | µg/L   | YES                               | 100                           | 12        | <1                                    | <1        | <1                      | <1         | 1                       | <1 - 4     | <1                 | <1        | <1               | <1        | <1               | <1        |
| Nitrate (as N)                     | Erosion of natural deposits; runoff and leaching from fertilizer use          | mg/L   | YES                               | 10                            | 10        | <0.4                                  | <0.4      | 0.6                     | <0.4 - 2.0 | 0.6                     | <0.4 - 1.5 | 0.5                | 0.5       | 0.5              | 0.5       | 0.5              | 0.5       |
| Nitrate + Nitrite (as N)           | Erosion of natural deposits; runoff and leaching from fertilizer use          | mg/L   | YES                               | 10                            | 10        | <0.4                                  | <0.4      | 0.4                     | <0.4 - 1.4 | 0.4                     | <0.4 - 1.5 | 0.5                | 0.5       | 0.5              | 0.5       | 0.5              | 0.5       |
| Total Organic Carbon (TOC)         | Erosion of natural deposits                                                   | mg/L   | YES                               | TT                            | none      | 1.5                                   | 1.1 - 1.9 | 1.4                     | 1.0 - 1.8  | 1.4                     | 1.0 - 1.7  | 2.4                | 1.7 - 2.6 | 2.4              | 1.8 - 2.6 | 2.3              | 2.0 - 2.5 |
| Trichloroethylene (TCE)            | Discharge from metal degreasing sites and other factories                     | µg/L   | YES                               | 5                             | 1.7       | <0.5                                  | <0.5      | <0.5                    | <0.5       | <0.5                    | <0.5 - 0.7 | <0.5               | <0.5      | <0.5             | <0.5      | <0.5             | <0.5      |
| Turbidity (c)                      | Soil runoff                                                                   | NTU    | YES                               | TT = 1                        | none      | 0.224                                 | NA        | NA                      | NA         | NA                      | NA         | .04                | NA        | 0.05             | NA        | .06              | NA        |
|                                    |                                                                               | %      |                                   | TT = 95% of samples ≤ 0.3 NTU |           | 100                                   |           |                         |            |                         |            | 100                |           | 100              |           | 100              |           |
| Uranium (d)                        | Erosion of natural deposits                                                   | pCi/L  | YES                               | 20                            | 0.43      | 2.5                                   | <1 - 4.6  | 2.5                     | <1 - 4.6   | 2.5                     | <1 - 4.8   | <1                 | <1        | <1               | <1        | <1               | <1 - 1    |

(a) Values reflect Highest Running Annual Average (HRAA). HRAA is the highest of all Running Annual Averages (RAAs) in the reported calendar year. RAA is a calculated average of all samples collected within the previous 12-month period, which may include test data from the previous calendar year. HRAA may be higher than the range, which is based on the test data in the reported calendar year.

(b) Bromate is formed in water treated with ozone in the presence of bromide. Bromate has also been found in water treated with chlorine in some uncovered reservoirs in LADWP that have elevated bromide levels and are exposed to sunlight. MWD tests for bromate at its Diemer and Jensen Filtration Plants, which use ozone. Weymouth Plant has tested for bromate for less than 12-month period and so RAA is not calculated. All LADWP distribution reservoirs are now shielded with flexible covers or shade balls to minimize bromate formation.

(c) Turbidity is a measure of the cloudiness of 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 (included in this table) at water filtration plants is less than or equal to 0.3 NTU in at least 95 percent 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 to report the highest single measurement in the calendar year as well as the lowest monthly percentage of measurements that are less than or equal to 0.3 NTU.

(d) Radiological monitoring is performed in cycles of various frequencies in LADWP for treated sources water and at the blend points. Monitoring for Gross Alpha Particle Activity is performed in six year cycle and was conducted in 2016. Monitoring of Combined Radium-226 and Radium-228 is performed in three year cycle and was conducted in 2019. Monitoring of Gross Beta Particle Activity, Strontium-90, Tritium and Uranium is performed annually. MWD conducted all radiological monitoring in 2019.

# TABLE I (CONT'D)

## Calendar Year 2019 Water Quality Monitoring Results Health-based Primary Drinking Water Standards (MCLs) Substances Detected in Treated Water and Reported on City-Wide Basis

| Substances                                  | Major Sources in Drinking Water                                              | Units       | Meets Primary Standard (YES/NO) | State Primary Standard MCL or (MRDL)         | State PHG / (MRDLG) | Average                                   | Range                                         |
|---------------------------------------------|------------------------------------------------------------------------------|-------------|---------------------------------|----------------------------------------------|---------------------|-------------------------------------------|-----------------------------------------------|
| Bromate (uncovered reservoirs)              | Byproduct of ozone disinfection; formed under sunlight for chlorinated water | µg/L        | YES                             | 10                                           | 0.1                 | HRAA = 2.2 (a)                            | Range = <1 – 2.4                              |
| Chlorine Residual, Total                    | Drinking water disinfectant added for treatment                              | mg/L        | YES                             | (4)                                          | (4)                 | HRAA = 1.9 (a)                            | Range = 1.8 – 2.2                             |
| Copper (at-the-tap) Action Level = 1300 (e) | Internal corrosion of household water plumbing systems                       | µg/L        | YES                             | TT                                           | 300                 | 90th Percentile value = 350               | Number of samples exceeding AL = 0 out of 104 |
| Fluoride                                    | Erosion of natural deposits; water additive that promotes good dental health | mg/L        | YES                             | 2                                            | 1                   | Average = 0.7                             | Range = 0.6 - 0.9                             |
| Haloacetic Acids (Five) (HAA5)              | Byproduct of drinking water disinfection                                     | µg/L        | YES                             | 60                                           | none                | HLRAA = 12 (f)                            | Range = 3 – 14                                |
| Lead (at-the-tap) Action Level = 15 (e)     | Internal corrosion of household water plumbing systems                       | µg/L        | YES                             | TT                                           | 0.2                 | 90th Percentile value = 4.3               | Number of samples exceeding AL = 2 out of 104 |
| Total Coliform Bacteria                     | Naturally present in the environment                                         | % Positives | YES                             | ≤5% of monthly samples are coliform positive | 0                   | Highest monthly % positive samples = 0.9% | Range = % positive samples 0% – 0.9%          |
| Total Trihalomethanes (TTHM)                | Byproduct of drinking water disinfection                                     | µg/L        | YES                             | 80                                           | none                | HLRAA = 29 (f)                            | Range = 7 - 34                                |

(a) Values reflect Highest Running Annual Average (HRAA). HRAA is the highest of all Running Annual Averages (RAAs) in the reported calendar year. RAA is a calculated average of all samples collected within the previous 12-month period, which may include test data from the previous calendar year. HRAA may be higher than the range, which is based on the test data in the reported calendar year.

(e) At-the-tap monitoring of lead and copper is conducted as required by the federal Lead and Copper Rule. A system is out of compliance if the federal Action Level is exceeded in more than 10 percent of all samples collected at the customers' tap. The most recent monitoring was conducted in 2019. Although the City's treated water has little or no detectable lead, studies were conducted and corrosion control implementation started. A corrosion control study was completed in 2019 which found that LADWP's corrosion control treatment is optimized and that it does not require the continued addition of a corrosion inhibitor.

(f) The federal Stage 2 Disinfectants/Disinfection Byproducts Rule (Stage 2 D/DBPR) requires compliance monitoring and reporting for total trihalomethanes (TTHM) and five haloacetic acids (HAA5) based on Locational Running Annual Averages (LRAAs) of established monitoring locations. The Highest Locational Running Annual Averages (HLRAAs) of all LRAAs in the current calendar year for TTHM and HAA5 are reported.



# TABLE II

## Calendar Year 2019 Water Quality Monitoring Results Aesthetic-based Secondary Drinking Water Standards (SMCLs) Substances Detected in Treated Water

| Substances                   | Major Sources in Drinking Water                                                  | Units | Meets Secondary Standard (YES/NO) | State SMCL or Federal (SMCL) | Los Angeles Aqueduct Filtration Plant |           | Northern Combined Wells |            | Southern Combined Wells |            | MWD Weymouth Plant |           | MWD Diemer Plant |           | MWD Jensen Plant |           |
|------------------------------|----------------------------------------------------------------------------------|-------|-----------------------------------|------------------------------|---------------------------------------|-----------|-------------------------|------------|-------------------------|------------|--------------------|-----------|------------------|-----------|------------------|-----------|
|                              |                                                                                  |       |                                   |                              | Average                               | Range     | Average                 | Range      | Average                 | Range      | Average            | Range     | Average          | Range     | Average          | Range     |
| Aluminum                     | Erosion of natural deposits; residue from some surface water treatment processes | µg/L  | YES                               | 200                          | <50                                   | <50       | <50                     | <50        | <50                     | <50        | 122 (a)            | <50 - 110 | 124 (a)          | <50 - 65  | 58 (a)           | <50 - 290 |
| Chloride                     | Runoff / leaching from natural deposits; seawater influence                      | mg/L  | YES                               | 500                          | 29                                    | 18 - 42   | 31                      | 18 - 52    | 31                      | 18 - 47    | 50                 | 46 - 55   | 56               | 53 - 58   | 62               | 62        |
| Color, Apparent (unfiltered) | Naturally-occurring organic materials                                            | ACU   | YES                               | 15                           | 4                                     | 3 - 5     | 3                       | 3 - 4      | 4                       | 3 - 5      | <1                 | <1 - 1    | <1               | <1 - 1    | 2                | 1 - 2     |
| Iron                         | Discharge from steel/ metal, plastic, and fertilizer factories                   | µg/L  | YES                               | 150                          | <20                                   | <20       | <20                     | <20        | <20                     | <20 - 21.6 | <20                | <20       | <20              | <20       | <20              | <20       |
| Odor                         | Naturally-occurring organic materials                                            | TON   | YES                               | 3                            | <1                                    | <1        | <1                      | <1         | <1                      | <1         | 1                  | 1         | <1               | <1 - 1    | <1               | <1 - 1    |
| pH                           | Naturally-occurring dissolved gases and minerals                                 | Unit  | YES                               | (6.5 - 8.5)                  | 7.7                                   | 6.4 - 8.7 | 7.8                     | 7.0 - 8.9  | 7.8                     | 7.1 - 8.9  | 8.5                | 8.5       | 8.4              | 8.4 - 8.5 | 8.4              | 8.4 - 8.5 |
| Specific Conductance         | Substances that form ions when in water; seawater influence                      | µS/cm | YES                               | 1600                         | 310                                   | 160 - 880 | 351                     | 170 - 580  | 370                     | 215 - 550  | 469                | 435 - 503 | 514              | 508 - 521 | 488              | 471 - 505 |
| Sulfate (as SO4)             | Runoff / leaching from natural deposits                                          | mg/L  | YES                               | 500                          | 24                                    | 14 - 35   | 31                      | 20 - 51    | 31                      | 18 - 60    | 73                 | 65 - 81   | 91               | 89 - 93   | 59               | 56 - 62   |
| Total Dissolved Solids (TDS) | Runoff / leaching from natural deposits                                          | mg/L  | YES                               | 1000                         | 186                                   | 124 - 229 | 210                     | 136 - 266  | 210                     | 136 - 288  | 266                | 244 - 289 | 304              | 296 - 312 | 283              | 280 - 286 |
| Turbidity (g)                | Soil runoff                                                                      | NTU   | YES                               | 5                            | <0.1                                  | <0.1      | 0.1                     | <0.1 - 0.1 | 0.1                     | <0.1 - 0.2 | <0.1               | <0.1      | <0.1             | <0.1      | <0.1             | <0.1      |
| Zinc                         | Runoff / leaching from natural deposits; industrial waste                        | µg/L  | YES                               | 5000                         | <10                                   | <10       | <10                     | <10        | <10                     | <10 - 13   | <10                | <10       | <10              | <10       | <10              | <10       |

(a) Values reflect Highest Running Annual Average (HRAA). HRAA is the highest of all Running Annual Averages (RAAs) in the reported calendar year. RAA is a calculated average of all samples collected within the previous 12-month period, which may include test data from the previous calendar year. Hence, HRAA may be higher than the range, which is based on the test data in the reported calendar year.

(g) The Secondary Maximum Contaminant Level for turbidity of treated water in the distribution system is 5 NTU at the entry points to the distribution system.

# TABLE III

## Calendar Year 2019 Water Quality Monitoring Results

### Unregulated Drinking Water Substances Detected in Treated Water

| Substances                                     | Major Sources in Drinking Water                                | Units     | State MCL (PHG) | Los Angeles Aqueduct Filtration Plant |           | Northern Combined Wells |            | Southern Combined Wells |            | MWD Weymouth Plant |           | MWD Diemer Plant |           | MWD Jensen Plant |           |
|------------------------------------------------|----------------------------------------------------------------|-----------|-----------------|---------------------------------------|-----------|-------------------------|------------|-------------------------|------------|--------------------|-----------|------------------|-----------|------------------|-----------|
|                                                |                                                                |           |                 | Average                               | Range     | Average                 | Range      | Average                 | Range      | Average            | Range     | Average          | Range     | Average          | Range     |
| Alkalinity, Total (as CaCO <sub>3</sub> )      | Erosion of natural deposits                                    | mg/L      | none            | 87                                    | 57 - 109  | 95                      | 62 - 125   | 95                      | 62 - 117   | 68                 | 67 - 70   | 72               | 69 - 74   | 82               | 80 - 84   |
| Ammonia + Chloramines (as N)                   | Drinking water disinfectant added for treatment                | mg/L      | none            | 0.4                                   | 0.4 - 0.5 | 0.4                     | 0.3 - 0.7  | 0.4                     | 0.4 - 0.7  | NA                 | NA        | NA               | NA        | NA               | NA        |
| Bicarbonate Alkalinity (as CaCO <sub>3</sub> ) | Naturally-occurring dissolved gas; erosion of natural deposits | mg/L      | none            | 107                                   | 69 - 134  | 115                     | 75 - 152   | 115                     | 75 - 142   | NA                 | NA        | NA               | NA        | NA               | NA        |
| Boron NL = 1000                                | Erosion of natural deposits                                    | µg/L      | none            | 383                                   | 234 - 491 | 372                     | 202 - 552  | 372                     | 214 - 552  | 120                | 120       | 120              | 120       | 160              | 160       |
| Bromide                                        | Runoff / leaching from natural deposits; seawater influence    | µg/L      | none            | 27                                    | <20 - 58  | 32                      | <20 - 108  | 32                      | <20 - 83   | NA                 | NA        | NA               | NA        | NA               | NA        |
| Calcium                                        | Erosion of natural deposits; natural hot springs               | mg/L      | none            | 22                                    | 17 - 27   | 26                      | 21 - 39    | 26                      | 19 - 46    | 25                 | 23 - 27   | 30               | 29 - 30   | 27               | 26 - 28   |
| Chromium, Hexavalent                           | Industrial discharge; erosion of natural deposits              | µg/L      | (0.02)          | <0.1                                  | <0.1      | 0.1                     | <0.1 - 0.4 | 0.1                     | <0.1 - 0.5 | <1                 | <1        | <1               | <1        | <1               | <1        |
| Hardness, Total (as CaCO <sub>3</sub> )        | Erosion of natural deposits                                    | mg/L      | none            | 78                                    | 56 - 96   | 95                      | 71 - 142   | 95                      | 65 - 165   | 108                | 101 - 116 | 127              | 124 - 130 | 114              | 112 - 117 |
| Lithium                                        | Erosion of natural deposits                                    | µg/L      | none            | 79                                    | <10 - 146 | 78                      | 33 - 148   | 78                      | 33 - 148   | NA                 | NA        | NA               | NA        | NA               | NA        |
| Magnesium                                      | Erosion of natural deposits                                    | mg/L      | none            | 6                                     | 3 - 8     | 7                       | 4 - 11     | 7                       | 4 - 12     | 12                 | 11 - 12   | 14               | 13 - 14   | 12               | 12 - 13   |
| Phosphate (as PO <sub>4</sub> )                | Erosion of natural deposits, agricultural run-off              | µg/L      | none            | <31                                   | <31       | <31                     | <31 - 254  | <31                     | <31 - 294  | NA                 | NA        | NA               | NA        | NA               | NA        |
| Potassium                                      | Erosion of natural deposits                                    | mg/L      | none            | 4                                     | 3 - 5     | 4                       | 3 - 5      | 4                       | 3 - 5      | 2.4                | 2.2 - 2.7 | 2.8              | 2.6 - 2.9 | 2.7              | 2.7       |
| Silica (as SiO <sub>2</sub> )                  | Erosion of natural deposits                                    | mg/L      | none            | 17                                    | 15 - 21   | 17                      | 14 - 21    | 17                      | 13 - 20    | NA                 | NA        | NA               | NA        | NA               | NA        |
| Sodium                                         | Erosion of natural deposits                                    | mg/L      | none            | 32                                    | 18 - 40   | 33                      | 18 - 41    | 33                      | 18 - 43    | 50                 | 46 - 54   | 56               | 54 - 57   | 52               | 51 - 54   |
| Temperature                                    | Natural seasonal fluctuation                                   | °C        | none            | 17                                    | 7 - 30    | 18                      | 9 - 32     | 18                      | 9 - 31     | NA                 | NA        | NA               | NA        | NA               | NA        |
| Total Coliform                                 | Naturally present in the environment                           | NUM/100mL | (0)             | <1                                    | <1        | <1                      | <1 - 1     | <1                      | <1 - 1     | NA                 | NA        | NA               | NA        | NA               | NA        |



**TABLE IV** Calendar Year 2019 Water Quality Monitoring Results  
The Third U.S. EPA Unregulated Contaminant Monitoring Rule (UCMR3)  
Substances Detected In Treated Water

| Substances                   | Units | Meets MCL or NL<br>(YES / NO) | State Primary Standard<br>MCL or (NL) | State PHG or Federal<br>(MCLG) | Los Angeles Aqueduct<br>Filtration Plant |             | Northern<br>Combined Wells |              | Southern<br>Combined Wells |              |
|------------------------------|-------|-------------------------------|---------------------------------------|--------------------------------|------------------------------------------|-------------|----------------------------|--------------|----------------------------|--------------|
|                              |       |                               |                                       |                                | Average                                  | Range       | Average                    | Range        | Average                    | Range        |
| 1,1-Dichloroethane (1,1-DCA) | µg/L  | YES                           | 5                                     | 3                              | <0.03                                    | <0.03       | <0.03                      | <0.03 – 0.04 | <0.03                      | <0.03 – 0.04 |
| 1,4-Dioxane                  | µg/L  | YES                           | (1)                                   | NA                             | <0.07                                    | <0.07       | 0.4                        | <0.07 – 0.9  | 0.4                        | <0.07 – 0.9  |
| Bromochloromethane           | µg/L  | NA                            | NA                                    | NA                             | <0.06                                    | <0.06       | <0.06                      | <0.06 – 0.1  | <0.06                      | <0.06 – 0.9  |
| Chlorate                     | µg/L  | YES                           | (800)                                 | NA                             | <20                                      | <20         | 130                        | <20 – 296    | 130                        | <20 – 186    |
| Chlorodifluoromethane        | µg/L  | NA                            | NA                                    | NA                             | 0.18                                     | <0.08 – 0.7 | <0.08                      | <0.08 – 0.4  | <0.08                      | <0.08 – 0.14 |
| Chromium, Hexavalent (CrVI)  | µg/L  | YES                           | 10                                    | 0.02                           | 0.2                                      | 0.1 – 0.4   | 1                          | 0.2 – 1.6    | 1                          | <0.03 – 3.3  |
| Chromium, Total (Total Cr)   | µg/L  | YES                           | 50                                    | (100)                          | 0.2                                      | <0.2 – 0.4  | 1                          | 0.2 – 1.5    | 1                          | <0.2 – 3.2   |
| Molybdenum                   | µg/L  | NA                            | NA                                    | NA                             | 5                                        | 3 – 7       | 7                          | 3 – 9        | 7                          | 3 – 10       |
| Strontium                    | µg/L  | NA                            | NA                                    | 4,000 (h)                      | 242                                      | 225 – 279   | 432                        | 255 – 550    | 432                        | 259 – 934    |
| Vanadium                     | µg/L  | YES                           | (50)                                  | NA                             | 1.6                                      | 1 – 2       | 2.2                        | 1.4 – 3.3    | 2.2                        | <0.2 – 2.7   |

(h) Health-based Advisory Level recommended by US EPA.



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## LADWP EXECUTIVE TEAM

**Martin L. Adams**  
General Manager and Chief Engineer

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Senior Assistant General Manager of External and Regulatory Affairs and Chief Sustainability Officer

**Ann Santilli**  
Chief Financial Officer

## General Information

This annual Drinking Water Quality Report (also known as a Consumer Confidence Report) is required by the California State Water Resources Control Board, Division of Drinking Water (SWRCB-DDW) and is prepared in accordance with their guidelines. The report is available online at [www.ladwp.com/waterqualityreport](http://www.ladwp.com/waterqualityreport). Copies may be requested by calling (213) 367-3182.

LADWP, the largest municipal utility in the nation, was established more than 100 years ago and provides a safe, reliable water and power supply to the city's more than 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 second and fourth Tuesdays of each month at 10:00 a.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/board](http://www.ladwp.com/board) or by calling (213) 367-1351.

For general information about LADWP, call (800) 342-5397 or visit [www.ladwp.com](http://www.ladwp.com).

For questions regarding this report, please call the Water Quality Hotline at (213) 367-3182.



# THIS MESSAGE IS FOR NON-ENGLISH SPEAKING LADWP CUSTOMERS

This report contains important information about your drinking water. If you have any questions regarding this report, ask someone to translate it for you.

## Spanish

Este informe contiene información importante sobre su agua potable. Si tiene alguna pregunta sobre este informe, por favor pídale a alguien que lo traduzca por usted.

## Arabic

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

**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:

## Croatian

Ovo izvješće sadrži važne informacije o vašoj vodi za piće.  
Neka ga neko prevede ili razgovarajte s nekim tko ga je u stanju pročitati.

## Chinese

此份有關您的飲用水質報告，內有重要資料和訊息。假如您對此報告有任何疑問，請找人為您翻譯及解釋清楚。

## 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 دیاری 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.

## German

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

## Gujarati

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

## Greek

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

## 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 inportanti 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。

**Khmer (Cambodian)** របាយការណ៍នេះមានព័ត៌មានសំខាន់ៗ  
សំអ្វីព័ត៌មានបរិភោគ ។ សូមបកប្រែ  
ឬពិគ្រោះជាមួយអ្នកដែលមើលយល់  
របាយការណ៍នេះ ។

**Korean** 이 안내는 매우 중요합니다.  
본인을 위해 번역인을 사용하십시오.

## Polish

Ta broszura zawiera wazne informacje dotyczace jakosci wody do picia. Przetlumacz zawartosc tej broszury lub skontaktuj sie z osoba ktora pomoze 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.

## Serbian

Ovaj izveštaj sadrži važne informacije o vašoj vodi za piće.  
Neka ga neko prevede ili razgovarajte sa nekim ko može da ga pročita.

## Tagalog

Mahalaga ang ulat na ito ukol sa inyong tubig inumin. Para sa karagdagang impormasyon, mangyaring ipasalin ito sa salitang Tagalog.

**Thai** รายงานนี้ประกอบด้วยข้อมูลที่สำคัญเกี่ยวกับน้ำดื่มของคุณ หากคุณไม่สามารถเข้าใจเนื้อหาโปรดพูดคุยกับผู้ที่เข้าใจเนื้อหาในรายงานนี้

**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.



[ladwp.com/waterqualityreport](http://ladwp.com/waterqualityreport)