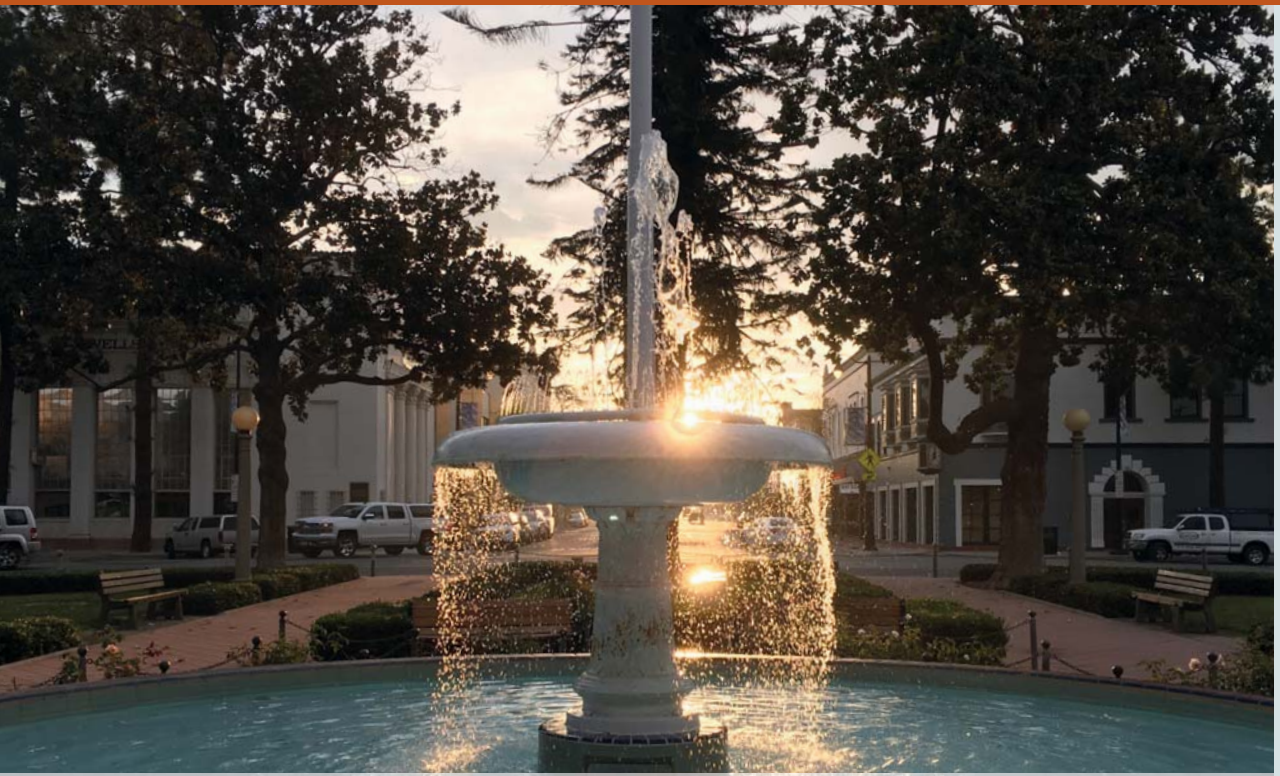
CONSUMER CONFIDENCE REPORT 2020



Serving the City of Orange for Over 100 Years

City of Orange
Water Division

Class 1 Water Utility

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

このレポートには、飲料水に関する重要な情報が含まれています。 は、変換、またはそれを理解している人と話すことになっている。

이 보고서는 식수에 대한 중요한 정보가 포함되어 있습니다. 그것은 번역, 또는 알고 있는 사람들과 이야기하고 있다.

Ang ulat na ito ay naglalaman ng mahalagang impormasyon tungkol sa iyong mga inuming tubig. Isalin ang mga ito, o makipag-usap sa isang tao na nauunawaan ito.

这个报告包含关于您的饮用水的重要信息。翻译它或者与了解它的人讲话。

Báo cáo này có chứa thông tin quan trọng về nước uống của bạn. Dịch nó, hoặc nói chuyện với một ai đó hiểu nó.

CITY OF ORANGE WATER DIVISION CONSUMER CONFIDENCE REPORT – 2020

Since 1990, the City of Orange has provided its water customers an annual water quality report. The federal government has adopted guidelines for water agencies to follow when communicating water quality information to consumers. The State of California tailored these guidelines and the former water quality report is now called the Consumer Confidence Report. The new format is intended to provide customers a summary of the water quality data, key definitions, and other related information.

This report summarizes the quality of the water provided in 2020. It includes details about water sources, what the water contains, and how it compares to standards set by the State of California. Orange vigilantly monitors and safeguards its water supplies. We are pleased to report that your tap water met all Federal and State drinking water health standards. For more information about your water, call (714) 288-2475 and ask for Chris Costlow or Jason Athas.

Some people may be more vulnerable to contaminants 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 people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Orange's water comes from three sources. The primary source is groundwater drawn from 12 municipal wells drilled about 1000 feet into the Santa Ana River Aquifer. Well water goes directly into the distribution system, is disinfected with chlorine and meets all state regulations. The second source is water imported by the Metropolitan Water District, from the Colorado River and from northern California (San Francisco-San Joaquin Bay Delta). Metropolitan water is filtered and disinfected with chloramines. Orange also purchases a small amount of water from the Serrano Water District. This source is primarily treated surface water, but also includes local treated well water.

The Orange City Council meets on the second Tuesday of each month at 6:00pm in the City Hall Council Chambers, 300 East Chapman Avenue. The community is welcome to participate in these meetings.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

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. It also can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water before it is treated include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.
- 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 storm water runoff, agriculture applications, and septic systems.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that must provide the same protection for public health..

WATER QUALITY DATA

The table below lists all the drinking water contaminants detected by the City of Orange during the 2020 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2020. The State requires the City of Orange to monitor for certain contaminants less than once per year because the concentrations of these contaminants is not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Terms and abbreviations used below:

- **Primary Drinking Water Standard or PDWS:** MCLs and MRDLs for contaminants that effect health along with their monitoring and reporting requirements, and water treatment requirements.
- **Public Health Goal (PHG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
- **Regulatory Action Level (AL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

- **NA:** not applicable
- **ND:** not detected
- **NS:** no standard
- **NTU:** Nephelometric Turbidity Units
- **ppm:** parts per million
- **ppb:** parts per billion
- **LCR:** lead copper rule
- **pCi/l:** picocuries per liter (a measure of radiation)

- **Maximum Residual Disinfectant Level (MRDL):** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

PRIMARY DRINKING WATER STANDARDS

(Mandatory Health Related Standards Established by the U.S. EPA & State Water Resources Control Board)

Contaminant	Unit Measurement	MCL	PHG (MCLG)	Range	Average	Date Sampled	Typical Source of Contaminant
Microbiological Contaminants							
Total Coliform Bacteria	MCL 5.0% of monthly samples are positive		(0)	ND	ND	Weekly	Naturally present in the environment
Radioactive Contaminants							
Gross Alpha Activity	pCi/l	15	0	ND-7.99	3.17	2020	Erosion of Natural Deposits
Uranium	pCi/l	20	0.43	1.23-9.07	4.09	2020	Erosion of Natural Deposits
Gross Beta Activity	pCi/l	50	0	ND-5	2.5	2016	Erosion of Natural Deposits
Inorganic Contaminants							
Aluminum	ppm	1	6	ND-0.002	<1	2020	Erosion of Natural Deposits
Arsenic	ppb	10	0.004	ND-1.0	<1	2020	Erosion of Natural Deposits
Fluoride	ppm	2	1	0.13-0.70	0.34	2020	Erosion of Natural Deposits; Water Additive
Nitrate (as N)	ppm	10	10	0.95-3.59	2.41	2020	Fertilizers; Septic Tanks
Nitrate (N)+ Nitrite	ppm	10	10	0.95-3.59	2.41	2020	Fertilizers; Septic Tanks
Barium	ppm	1	2	0.06-0.11	0.09	2020	Refinery Discharge; Erosion of Natural Deposits
Copper	ppm	AL=1.3	0.3	0.01-0.96 no homes above AL	90% was 0.35	2019	Corrosion of Household Plumbing
Lead	ppb	AL=15	0.2	ND-20.2 no homes above AL	90% was 3.0	2019	Corrosion of Household Plumbing

SECONDARY DRINKING WATER STANDARDS

(Aesthetic Standards Established by the U.S. EPA & State Water Resources Control Board)

Contaminant	Unit Measurement	MCL	PHG (MCLG)	Range	Average	Date Sampled	Typical Source of Contaminant
Color	Units	15 units	NA	<5	<5	Monthly	Naturally-Occurring Organic Materials
Aluminum	ppb	200	100	ND-1.8	0.67	2020	Erosion of Natural Deposits
Odor-Threshold	Units	3 units	NA	1	1	Monthly	Naturally-Occurring Organic Materials
Turbidity: Distribution System	NTU	5	NA	ND-0.33	0.08	Monthly	Soil runoff
Turbidity: Wells	NTU	5	NA	ND-0.24	0.09	Monthly	Soil runoff
Turbidity: Import	NTU	0.5TT	NA	ND	ND	Daily	Soil runoff
Total Dissolved Solids (TDS)	ppm	1000	NA	290-612	492	2020	Erosion of Natural Deposits
Specific Conductance	micromhos	1600	NA	495-995	981	2020	Erosion of Natural Deposits
Chloride	ppm	500	NA	31-110	77	2020	Erosion of Natural Deposits
Sulfate	ppm	500	NA	55-216	116	2020	Erosion of Natural Deposits

Stage 2 Disinfection Byproducts Precursors, 1st, 2nd, 3rd, and 4th (8 samples / Quarter)							
Contaminant	**Unit Measurement**	**MCL**	**PHG (MCLG)**	**Range**	**Average**	**Date Sampled**	**Typical Source of Contaminant**
Total Trihalomethanes (TTHMS)	ppb	80	NA	6.8-48	39	December 2020	By-Product of Drinking Water Chlorination

Highest Local Running Annual Average 39

Haloacetic acids (HAA5)	ppb	60	NA	ND-18	8	December 2020	By-Product of Drinking Water Chlorination

Highest Local Running Annual Average 8

Total Chlorine Residual	ppm	4.0	4.0	ND-2.44	0.93	Weekly	Drinking Water Disinfectant

Other Parameters

Sodium	ppm	NS	NS	43-96	56	2020	Erosion of Natural Deposits
Hardness ($CaCO_3$)	Grains/Gallon	NS	NS	9-22	17	2020	Erosion of Natural Deposits

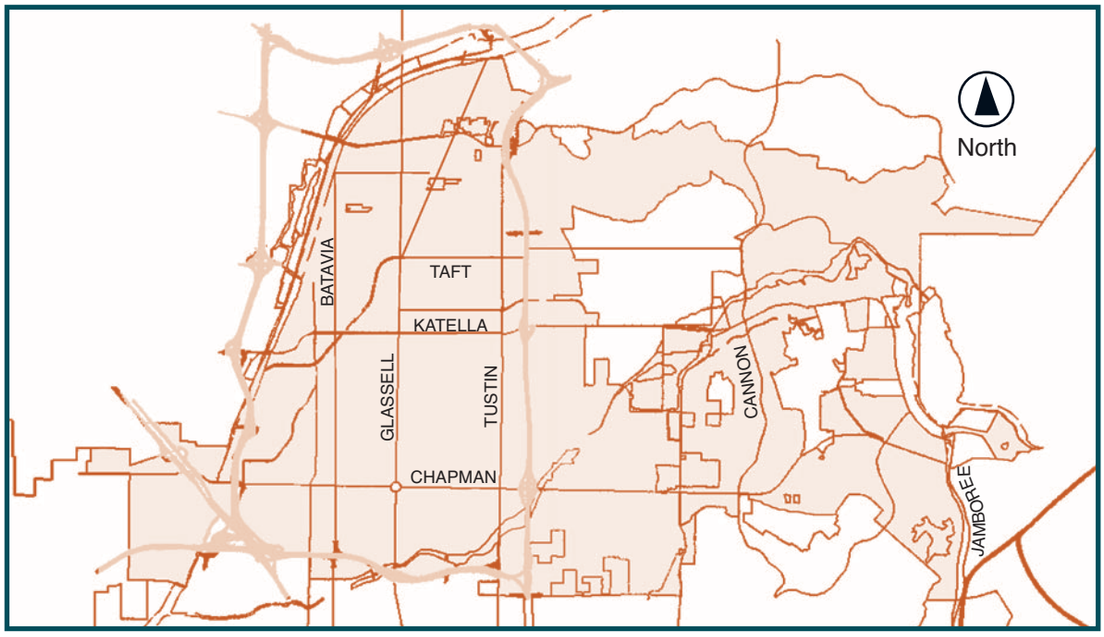
Unregulated Contaminants Requiring Monitoring

Bromochloroacetic Acid	ppb	NS	NS	0.3-6.7	2.13	2018	By-Products of Drinking Water Chlorination
Bromodichloroacetic Acid	ppb	NS	NS	ND-1.9	0.94	2018	By-Products of Drinking Water Chlorination
Chlorodibromoacetic Acid	ppb	NS	NS	ND-1.5	0.83	2018	By-Products of Drinking Water Chlorination
Dibromoacetic Acid	ppb	NS	NS	0.4-4.2	1.73	2018	By-Products of Drinking Water Chlorination
Dichloroacetic Acid	ppb	NS	NS	ND-7	2.01	2018	By-Products of Drinking Water Chlorination
Monobromoacetic Acid	ppb	NS	NS	ND-0.7	0.22	2018	By-Products of Drinking Water Chlorination
Monochloroacetic Acid	ppb	NS	NS	ND-2	0.06	2018	By-Products of Drinking Water Chlorination
Tribromoacetic Acid	ppb	NS	NS	ND-2.3	0.14	2018	By-Products of Drinking Water Chlorination
Trichloroacetic Acid	ppb	NS	NS	ND-1.5	0.66	2018	By-Products of Drinking Water Chlorination
Germanium	ppb	NS	NS	<0.3-0.4	0.1	2018	Industrial Waste Discharge
Manganese	ppb	NS	NS	0.8-14.7	3.83	2018	Naturally-Occuring; Dissolved Mineral
Bromide	ppb	NS	NS	0.08-0.23	0.17	2018	By-Products of Drinking Water Chlorination
Total Organic Carbon	ppb	NS	NS	0.08-0.46	0.25	2018	Naturally Present in the Environment
Octanic Sulfonic Acid (PFOS)	ppt	NS	NS	ND-37.5	10.07	2020	Industrial Waste Discharge
Perfluoro Octanic Acid (PFOA)	ppt	NS	NS	ND-21.1	6.43	2020	Industrial Waste Discharge

SOURCE WATER ASSESSMENT

City of Orange water supplies are from various sources including groundwater, purchased water from northern California and the Colorado River, and local watersheds. An assessment of our drinking water sources was completed in December 2002. Water sources are considered most vulnerable to contamination from those activities associated with urban industrial environments such as chemical processing, petroleum pipelines and storage, gas stations and sewer collection systems. The City of Orange carefully tests all water supply sources to assure the safety and compliance with all Drinking Water Standards. A copy of the assessment summary is available at the City of Orange Water Division, located at 189 S. Water St., or you may request a summary be sent to you by contacting the City of Orange Water Division at (714) 288-2475.

City of Orange Water Division Service Area Map



City of Orange Water Division
P.O. Box 449, Orange, CA 92866
(714) 288-2475
www.cityoforange.org

24 Hour Emergency (714) 538-1961

Chris Costlow, *Sr. Water Quality Inspector*
Jason Athas, *Sr. Water Quality Inspector*
Water Quality (714) 288-2475

Water Engineering (714) 288-2475

Water Billing (714) 744-2233

www.cityoforange.org/ccr

Water Supply, Water Quality, and Related Topics

CUSTOMER SERVICE: We are committed to provide prompt courteous service to our customers. If you have questions about water quality, pressure or other supply issues, please call (714) 288-2475 or after regular business hours call (714) 538-1961. Questions about your bill should be directed to our utility billing office at (714) 744-2233.

ONGOING WATER QUALITY PROGRAMS AND ACTIVITIES: The City of Orange adheres to strict regulatory standards for materials used in our water system. Rigorous third party testing assures all materials are approved for use in potable water systems. With testing performed by other public and private laboratories, we are able to assure that our water supply meets or exceeds all applicable drinking water standards. In addition, our staff administers a cross-connection control program to check that water service connections are protected where there is a possibility of reverse flow contaminating our water system.

DISINFECTION: Water supplies are made safe to drink in several ways. All of the city's well water sources are naturally filtered as the water percolates through the ground removing impurities. As an added protection, the city chlorinates all well water pumped into the distribution system. Other water sources require treatment at facilities designed to remove impurities and make water safe to drink. Water treatment facilities use various forms of disinfection including chlorine, chloramines and ozone. Each, or a combination of these, may be used to treat surface water purchased by the city for delivery to our customers. **All treatment methods are designed to make the water safe for humans to drink. Chloramine disinfection can be toxic to fish and other aquatic animals and is of concern for kidney dialysis patients. Water supplied with chloramines generally makes up about 25% to 35% of our total supply. Pet fish owners should take appropriate remedies when changing or adding water from the tap to fishponds or fish tanks. Dialysis patients should consult a health care professional for appropriate precautions.**

FIRE HYDRANTS: The City of Orange maintains high standards for water supplies available for fire protection and is rated a Class I Water System by the Insurance Services Office. We have over 4,500 public fire hydrants located throughout our service area. Many other hydrants are privately owned and maintained by the property owner. The city tests all public hydrants on a regular interval, usually once each year. It is very important that hydrants function properly and are accessible to firefighters when emergency supplies are needed. **If there is a hydrant in front of your home or on your property, please maintain a sufficiently clear, three-foot minimum area around the hydrant. Bushes, shrubs, trees, etc. should be trimmed to keep the hydrant visible and accessible.**

REGIONAL WATER SUPPLY SOURCES: Water supplies throughout Southern California are derived from several sources. These sources include water from Northern California via the State Water Project, the Colorado River, local groundwater basins, local water sheds, reclamation and water reuse projects, and ocean desalinization. The combination of some or all of these sources is available to the City of Orange now or in the future. Reliable water supplies are essential to our health, safety, and welfare. **No single source is sufficient to meet all of our water supply needs. The challenge is to find a cost-effective, reliable combination that will ensure adequate water supplies now and into the future. Please help recognize the value of a reliable water supply. Use what you need, but please don't waste water. For water conservation information, please visit, www.mwdoc.com/savewater.**