



Irvine Ranch
WATER DISTRICT

2020 WATER QUALITY REPORT

IRWD 2020 Water Quality Report

Since 1990, California public water utilities have provided an annual water quality report to their customers. **This year's report covers calendar year 2019 drinking water quality testing and reporting.** Irvine Ranch Water District (IRWD) vigilantly safeguards its water supply and, as in years past, the water delivered to your home meets the quality standards required by federal and state regulatory agencies. The U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board, Division of Drinking Water (DDW) are the agencies responsible for establishing and enforcing drinking water quality standards.

IRWD and other regional water suppliers frequently go beyond what is required by testing for unregulated chemicals that may have health risks but do not have drinking water standards. For example, the Orange County Water District (OCWD), which manages the groundwater basin; the Metropolitan Water District

of Southern California (MWD), which supplies imported treated surface water; and IRWD, which operates a local surface water treatment plant and several groundwater treatment plants, all test for unregulated chemicals in our water supply. Unregulated chemical monitoring helps U.S. EPA and DDW

determine where certain chemicals occur and whether new standards need to be established for those chemicals.

Through drinking water quality compliance testing programs carried out by OCWD (groundwater), MWD (treated surface water) and IRWD (treatment plants and the distribution system), your drinking water is constantly monitored

from source to tap for regulated and unregulated constituents.

The state allows drinking water agencies to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some data, though representative, is more than one year old.



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

يحتوي هذا التقرير على معلومات هامة عن نوعية ماء الشرب في منطقتك. يرجى ترجمته، أو ابحث التقرير مع صديق لك يفهم هذه المعلومات جيدا.

Arabic

Der Bericht enthält wichtige Informationen über die Wasserqualität in Ihrer Umgebung. Der Bericht sollte entweder offiziell übersetzt werden, oder sprechen Sie mit Freunden oder Bekannten, die gute Englischkenntnisse besitzen.

German

이 보고서에는 귀하가 거주하는 지역의 수질에 관한 중요한 정보가 들어 있습니다. 이것을 번역하거나 충분히 이해하시는 친구와 상의하십시오.

Korean

这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

Chinese

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

Italian

Este informe contiene información muy importante sobre su agua potable. Para más información o traducción, favor de contactar a Customer Service Representative. Teléfono: 949-453-5300.

Spanish

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.

French

この資料には、あなたの飲料水についての大切な情報が書かれています。内容をよく理解するために、日本語に翻訳して読むか説明を受けてください。

Japanese

Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.

Vietnamese

Questions about your water? Contact us for answers.

If you have questions about this report, please call Lars Oldewage, IRWD water quality manager, at 949-453-5858.

To reach IRWD Customer Service and for other information, please call 949-453-5300, or email CustomerService@IRWD.com.

Community participation

The IRWD Board of Directors meets the second and fourth Monday of each month beginning at 5 p.m. at IRWD, 15600 Sand Canyon Avenue, Irvine, California 92618.

A copy of this report is also available on our website: IRWD.com. For more information about the health effects of the listed contaminants in the following tables, call the U.S. EPA Safe Drinking Water Hotline at 800-426-4791.

The quality of your water is our primary concern

Sources of supply

IRWD is committed to providing a clean and reliable water supply for its customers. Our drinking water is a blend of groundwater from the Orange County Groundwater Basin and surface water imported by the Metropolitan Water District. MWD's imported water sources come from the State Water Project and the Colorado River Aqueduct. Local groundwater is pumped from a natural underground reservoir that stretches from the Prado Dam and fans across the northwestern portions of Orange County, stretching as far south as the El Toro "Y." Additional source waters come from the Harding Canyon Dam watershed and the Santiago Creek Dam watershed. Local groundwater comprises approximately 65% of the total IRWD drinking water supply.

Basic information about drinking water contaminants

Drinking water sources (both tap and bottled water) may include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the layers of the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animal and human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production or mining activities.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic sewage discharges, oil and gas production, mining and farming.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gasoline stations, urban stormwater runoff, agricultural application and septic systems.



The Eastern Branch of the California Aqueduct, part of the California State Water Project, wends its way towards southern California.

To ensure that tap water is safe to drink, the U.S. EPA and DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. 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 U.S. EPA Safe Drinking Water Hotline at 800-426-4791.

Safe from COVID-19

The coronavirus, SARS-CoV-2 (which leads to the illness COVID-19), does not present a threat to our water supplies.

IRWD's groundwater comes from deep wells, which do not contain viruses or other pathogenic organisms. Our imported surface water receives advanced water treatment that removes all microorganisms including viruses.

Additional information about COVID-19 and your water supply is available from the California Water Boards at bit.ly/cwb-covid.

Information the U.S. EPA would like you to know

Drinking water fluoridation

Fluoride has been added to U.S. drinking water supplies since 1945. In December 2007, MWD joined a majority of the nation's public water suppliers in adding fluoride to drinking water to help prevent tooth decay. MWD was in compliance with all provisions of the State's fluoridation system requirements.

IRWD's local groundwater contains naturally occurring fluoride, but is not supplemented with fluoride. Fluoride levels in drinking water are limited under California state regulations at a maximum dosage of 2 parts per million.

There are many places to go for additional information about the fluoridation of drinking water:

U.S. Centers for Disease Control and Prevention

800-232-4636 • cdc.gov/fluoridation

State Water Resources Control Board, Division of Drinking Water

[waterboards.ca.gov/drinking_water/
certlic/drinkingwater/Fluoridation.html](https://waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html)

American Water Works Association: awwa.org

For more information about MWD's fluoridation program, please contact Edgar G. Dymally at 213-217-5709 or at edymally@mw2o.com.

Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can cause diarrhea, fever, and other gastrointestinal symptoms.

The organism comes from animal and/or human waste and may be in surface water. MWD and IRWD tested the source waters and treated surface waters for *Cryptosporidium* in 2019 and did not detect it.

If detected in any drinking water samples, *Cryptosporidium* is eliminated by an effective treatment combination including sedimentation, filtration and disinfection.

The U.S. EPA and the federal Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the U.S. EPA Safe Drinking Water Hotline at 800-426-4791.



Immuno-compromised people

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those with cancer who are undergoing chemotherapy, people who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

Total coliform rule

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements instituted during 2016. All water systems are required to comply with the state Total Coliform Rule. Effective April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule.

The new federal rule protects public health by ensuring the integrity of the drinking water distribution system by monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). U.S. EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and resolve potential issues. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.

Chloramines

Water imported from MWD and locally produced ground-water contains chloramines, a combination of chlorine and ammonia, as a drinking water disinfectant. Chloramines effectively kill bacteria and other microorganisms that may cause disease.

Chloramines have no odor when used properly.

People who use kidney dialysis machines may want to take special precautions and consult their physician for the appropriate type of water treatment.

Customers who maintain fish ponds, tanks or aquariums should also make necessary adjustments in water quality treatment, as these disinfectants are toxic to fish.

For further information or if you have any questions about chloramines please visit IRWD.com or call 949-453-5300.

Water quality issues that could affect your health

About lead in tap water

IRWD meets all standards for lead in the U.S. EPA Lead and Copper Rule. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing.

IRWD is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. IRWD encourages you to collect the flushed water and reuse it for another beneficial purpose, such as watering potted plants.

Information on lead in drinking water, testing methods, and

steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at epa.gov/safewater/lead.

If you are concerned about lead in your water, you may wish to have your water tested.



Nitrate advisory

Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months old. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin.

Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies.

If you are caring for an infant or are pregnant, you should ask advice from your health care provider.

Want additional information? Explore water online.



There's a wealth of information on the internet about drinking water quality, water reliability and water issues in general. A good place to begin your research is IRWD.com/water-report.

In addition to extensive information about your local water and the support and services we offer, you'll find links to many other regional, statewide and national water resources.

You can also view "Journey of a Water Sample: How We Safeguard Your Water," a short video depicting the steps IRWD staff take to ensure the high quality of our drinking water.

Enjoy keeping in the know via social media? Follow IRWD's water updates here:



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Irvine Ranch Water District



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youtube.com/IrvineRanchWD



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Irvine Ranch Water District Local and Imported Drinking Water Quality Results for 2019

Chemical	MCL	MRDL	PHG MRDLG (MCLG)	Average Local Treated Groundwater	Average Local Treated Surface Water	Average Imported MWD Treated Water	Range of Detections	MCL Violation?	Typical Source of Contaminant
Radiologicals – Tested in 2017 to 2019									
Alpha Radiation (pCi/L)	15		(0)	<3	<3	ND	ND – 4.6	No	Erosion of Natural Deposits
Uranium (pCi/L)	20		0.43	<1	<1	ND	ND – 2.8	No	Erosion of Natural Deposits
Inorganic Chemicals – Tested in 2017 to 2019									
Aluminum (ppm)	1		0.6	ND	ND	0.12 (RAA)	ND – 0.065	No	Treatment Process Residue, Natural Deposits
Arsenic (ppb)	10		0.004	<2	ND	ND	ND – 2.6	No	Erosion of Natural Deposits
Barium (ppm)	1		2	ND	<0.10	ND	ND – 0.11	No	Erosion of Natural Deposits
Bromate (ppb)	10		0.1	NR	NR	2.0	ND – 5.9	No	Byproduct of Drinking Water Ozonation
Chlorine (ppm)	4.0		4	NR	2.1	NR	0.98 – 2.6	No	Drinking Water Disinfectant Added for Treatment
Chlorine Dioxide (ppb)	800		800	NR	<20	NR	ND – 280	No	Drinking Water Disinfectant Added for Treatment
Chlorite (ppm)	1		0.05	NR	0.066	NR	ND – 0.086	No	Erosion of Natural Deposits
Fluoride (ppm) naturally-occurring	2		1	0.45	0.21	NR	ND – 1.6	No	Erosion of Natural Deposits
Fluoride (ppm) treatment-related	2		1	NR	NR	0.7	0.1 – 0.9	No	Water Additive for Dental Health
Nitrate (ppm as N)	10		10	<0.4	<0.4	0.5	ND – 5.6	No	Fertilizers, Septic Tanks
Nitrate+Nitrite (ppm as N)	10		10	<0.4	<0.4	0.5	ND – 5.6	No	Fertilizers, Septic Tanks
Selenium (ppb)	50		30	<5	ND	ND	ND – 6.2	No	Fertilizers, Septic Tanks
Secondary Standards* – Tested in 2017 to 2019									
Aluminum (ppb)	200*		600	ND	ND	124 (RAA)	ND – 65	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*		n/a	26	43	56	13 – 101	No	Leaching from Natural Deposits; Seawater Influence
Color (color units)	15*		n/a	<3	<3	<1	ND – 10	No	Naturally-Occurring Organic Substances
Odor (TON)	3*		n/a	1	2	<1	ND – 8	No	Naturally-Occurring Organic Materials
Iron (ppb)	300*		n/a	<100	ND	ND	ND – 205	No	Leaching from natural deposits; industrial wastes
Manganese (ppb)	50 *		n/a	<20	ND	ND	ND – 26	No	Leaching from natural deposits; industrial wastes
Specific Conductance (µmho/cm)	1,600*		n/a	445	720	514	379 – 968	No	Ions in Water; Seawater Influence
Sulfate (ppm)	500*		n/a	62	149	91	3.2 – 294	No	Runoff or Leaching from Natural Deposits
Surfactants (ppb)	500		n/a	ND	<50	ND	ND – 55	No	Leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	1,000*		n/a	261	461	304	116 – 606	No	Runoff or Leaching from Natural Deposits
Turbidity (NTU)	5*		n/a	0.17	<0.10	ND	ND – 1.2	No	Erosion of Natural Deposits
Unregulated Contaminants – Tested in 2017 to 2019									
Alkalinity, Total (ppm as CaCO ₃)	Not Regulated		n/a	156	163	72	60 – 228	n/a	Runoff or Leaching from Natural Deposits
Bicarbonate (ppm as HCO ₃ ⁻)	Not Regulated		n/a	186	198	NR	74 – 235	n/a	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL = 1		n/a	<0.10	<0.10	0.12	ND – 0.19	n/a	Runoff or Leaching from Natural Deposits
Bromide (ppm)	Not Regulated		n/a	<0.10	ND	NR	ND – 0.19	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated		n/a	40	74	30	2.6 – 124	n/a	Runoff or Leaching from Natural Deposits
Carbonate (ppm)	Not Regulated		n/a	2.4	<0.6	NR	ND – 21	n/a	Runoff or Leaching from Natural Deposits
Chlorate (ppb)	NL = 800		n/a	NR	NR	55	55	n/a	Byproduct of Drinking Water Chlorination
Corrosivity (Aggressiveness)	Not Regulated		n/a	11.8	12.2	12.1	10.6 – 12.8	n/a	Elemental Balance in Water
Corrosivity (Langlier Index)	Not Regulated		n/a	0.05	0.33	0.43	(-)1.1 – 0.84	n/a	Elemental Balance in Water
Hardness, Total (ppm as CaCO ₃)	Not Regulated		n/a	135	277	127	7.6 – 439	n/a	Runoff or Leaching from Natural Deposits
Hardness, Total (grains/gal)	Not Regulated		n/a	7.9	16	7.4	0.4 – 26	n/a	Runoff or Leaching from Natural Deposits
Hexavalent Chromium (ppb)	Not Regulated		0.02**	<1	ND	ND	ND – 1.4	No	Erosion of Natural Deposits; Industrial Discharge
Magnesium (ppm)	Not Regulated		n/a	8.7	22	14	ND – 31	n/a	Runoff or Leaching from Natural Deposits
Molybdenum (ppb)	Not Regulated		n/a	NR	1.0	NR	ND – 2.0	n/a	Drinking Water Treatment Chemical for Aesthetic Quality
ortho-Phosphate (ppm)	Not Regulated		n/a	<0.31	NR	NR	ND – 0.46	n/a	Drinking Water Treatment Chemical for Aesthetic Quality
pH (pH units)	Not Regulated		n/a	8.1	7.8	8.4	7.2 – 8.7	n/a	Acidity, Hydrogen Ions*
Potassium (ppm)	Not Regulated		n/a	1.7	2.4	2.8	0.6 – 4.4	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated		n/a	61	46	56	23 – 121	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT		n/a	0.71	2.5	2.4	ND – 6.7	TT	Various Natural and Man-Made sources
Vanadium (ppb)	NL = 50		n/a	3.0	<0.5	ND	ND – 8.3	n/a	Runoff or Leaching from Natural Deposits

Your water has been tested for many more chemicals than are listed above, including metals (such as mercury), pesticides, volatile organics and PFAS compounds. Chemicals not detected in any water sources are not included in the table.

*Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

**There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = picoCuries per liter; NTU = nephelometric turbidity units; ND = not detected;

n/a = not applicable; NR = not required to be tested; NL = Notification Level; < = average is less than the detection limit for reporting purposes;

MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal; µmho/cm = micromho per centimeter;

TT = Treatment Technique; RAA = Highest Running Annual Average

Turbidity – combined filter effluent	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Contaminant
Baker Water Treatment Plant	1) Highest single turbidity measurement	0.1 NTU	No	Soil Run-Off
	2) Percentage of samples less than 0.3 NTU	95%	No	Soil Run-Off
Manning Water Treatment Plant	1) Highest single turbidity measurement	0.2 NTU	No	Soil Run-Off
	2) Percentage of samples less than 0.3 NTU	95%	No	Soil Run-Off
Metropolitan Water District Diemer Filtration Plant	1) Highest single turbidity measurement	0.3 NTU	No	Soil Run-Off
	2) Percentage of samples less than 0.3 NTU	95%	No	Soil Run-Off

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT).

A treatment technique is a required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

Unregulated Chemicals Requiring Monitoring at Entry Points to the Distribution System

Chemical	Notification Level	PHG	Average Local and Imported	Range of Detections	Most Recent Sampling Date
Bromide (ppm)	n/a	n/a	0.19	0.025 – 0.72	2019
Germanium, Total (ppb)	n/a	n/a	<0.3	ND – 0.8	2019
Manganese, Total (ppb)***	SMCL = 50	n/a	1.2	ND – 2.7	2019
Total Organic Carbon (ppm)	n/a	n/a	1.3	0.17 – 6.5	2019

SMCL = Secondary Maximum Contaminant Level (for aesthetic water quality)

***Total manganese was included as part of the unregulated chemicals requiring monitoring.

2019 Irvine Ranch Water District Distribution System Water Quality

Disinfection Byproducts	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	80	53***	7.7 – 68	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	18***	1.3 – 37	No	Byproducts of Chlorine Disinfection
Chlorite (ppm)	1	0.07	ND – 0.12	No	Byproduct of Chlorine Dioxide used in Treatment
Chlorine Residual (ppm)	(4.0 / 4)	1.9	ND – 4.0	No	Disinfectant Added for Treatment
Aesthetic Quality					
Color (color units)	15*	<3	ND – 30	No	Erosion of Natural Deposits
Turbidity (NTU)	5*	0.18	ND – 10	No	Erosion of Natural Deposits
Odor (threshold odor number)	3*	<1	ND – 6	No	Erosion of Natural Deposits
Other					
Fluoride (mg/L)	2/0.8**	0.54	ND – 0.88	No	Erosion of Natural Deposits, Water Treatment

Twelve locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; 60 locations are tested monthly for color and odor, and weekly for chlorine residual and turbidity.

MRDL = Maximum Residual Disinfectant Level; MRDLG = Maximum Residual Disinfectant Level Goal

*Contaminant is regulated by a secondary standard **MCL/Optimum Level for our climate ***Highest running annual average at any individual sample location.

Bacterial Quality	MCL	MCLG	Highest Monthly % Positive Samples	MCL Violation?	Typical Source of Contaminant
Total Coliform Bacteria	5%	0	1.3%	No	Naturally Present in the Environment
Heterotrophic Plate Count Bacteria	5%	n/a	0.8%	No	Naturally Present in the Environment

No more than 5% of the monthly samples may be positive for total coliform bacteria.

The occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/*E. coli*, constitutes an acute MCL violation.

A system is in non-compliance if more than 5% of samples collected in a given month have Heterotrophic Plate Counts greater than 500 colony forming units per milliliter and no detectable chlorine residual.

Lead and Copper Action Levels at Residential Taps

	Action Level (AL)	Public Health Goal (PHG)	90 th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation	Typical Source of Contaminant
Copper (ppm)	1.3	0.3	0.29	0/67	No	Corrosion of Household Plumbing
Lead (ppb)	15	0.2	<5	0/67	No	Corrosion of Household Plumbing

The most recent lead and copper at-the-tap samples were collected from 67 residences in 2019.

Lead was detected in 2 homes and copper was detected in 46 homes, but none of the samples for lead and copper exceeded the respective regulatory Action Level (AL).

A regulatory Action Level is the concentration of a contaminant which, if exceeded in more than 10% of samples, triggers treatment or other requirements that a water system must follow.

No schools requested testing for lead in 2019.

Unregulated Chemicals Requiring Monitoring in the Distribution System

Chemical	Notification Level	PHG (MCLG)	Average Local and Imported	Range of Detections	Most Recent Sampling Date
Germanium, Total (ppb)	n/a	n/a	0.54	ND – 1.1	2019
Manganese, Total (ppb)	SMCL = 50	n/a	1.8	0.8 – 2.2	2019
Bromochloroacetic Acid (ppb)	n/a	n/a	3.9	1.5 – 13	2019
Bromodichloroacetic Acid (ppb)	n/a	n/a	1.3	0.6 – 3.8	2019
Chlorodibromoacetic Acid (ppb)	n/a	n/a	1.0	0.4 – 2.5	2019
Dibromoacetic Acid (ppb)	n/a	n/a	2.5	0.9 – 7.0	2019
Dichloroacetic Acid (ppb)	n/a	(0)	4.9	1.7 – 25	2019
Monobromoacetic Acid (ppb)	n/a	n/a	0.3	ND – 1.2	2019
Monochloroacetic Acid (ppb)	n/a	(70)	0.2	ND – 3.8	2019
Trichloroacetic Acid (ppb)	n/a	(20)	1.3	ND – 10	2019

SMCL = Secondary Maximum Contaminant Level (for aesthetic quality)

Chart legend

What are water quality standards?

Drinking water standards established by U.S. EPA and DDW set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The chart in this report shows the following types of water quality standards:

- **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.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Secondary MCLs** are set to protect the odor, taste, and appearance of drinking water.
- **Primary Drinking Water Standard:** MCLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.
- **Regulatory Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

What is a water quality goal?

In addition to mandatory water quality standards, U.S. EPA and DDW have set voluntary water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. The chart in this report includes three types of water quality goals:

- **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 U.S. EPA.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Public Health Goal (PHG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

How are contaminants measured?

Water is sampled and tested throughout the year. Contaminants are measured in:

- Parts per million (ppm) or milligrams per liter (mg/L)
- Parts per billion (ppb) or micrograms per liter (µg/L)
- Parts per trillion (ppt) or nanograms per liter (ng/L)

Source water assessments

Imported (MWD) water assessment

Every five years, MWD is required by DDW to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters.

The most recent watershed sanitary surveys of its source water supplies from the Colorado River was updated in 2015 and the State Water Project was updated in 2016. Both source waters are exposed to stormwater runoff, recreational activities, wastewater discharges, wildlife, fires, and other watershed-related factors that could affect water quality.

Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban/stormwater runoff, increasing urbanization in the watershed, and wastewater. Water supplies from Northern California's State Water Project are most vulnerable to contamination from urban/stormwater runoff, wildlife, agriculture, recreation, and wastewater.

U.S. EPA also requires MWD to complete one Source Water Assessment (SWA) that uses information collected in the watershed sanitary surveys. MWD completed its SWA in December 2002. The SWA is used to evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed.

A copy of the most recent summary of either Watershed Sanitary Survey or the SWA can be obtained by calling MWD at 800-CALL-MWD (800-225-5693).



(IRWD) Baker Water Treatment Plant water assessment

The Baker Water Treatment Plant receives untreated surface water from MWD (see MWD water assessment above) and untreated surface water from Santiago Reservoir. The surface water assessment of Santiago Reservoir is provided by Serrano Water District, which also uses source water from Santiago Reservoir.

The most recent sanitary survey for Santiago Reservoir was updated in 2019. Water supplies from Santiago Reservoir are most vulnerable to septic systems and wildfires. The Source Water Assessment for Santiago Reservoir was completed in April 2001. The assessment was conducted for the Serrano Water District by Boyle Engineering Corporation with assistance from the Serrano Water District staff.

A copy of the complete assessment may be viewed at the IRWD Water Quality Department, 3512 Michelson Drive, Irvine. You may request a summary of the assessment by writing to District Secretary, Irvine Ranch Water District, 15600 Sand Canyon Avenue, Irvine, California 92618.

Groundwater assessment

An assessment of the groundwater sources in the Lake Forest service area of IRWD was completed in December 2002. This groundwater is considered most vulnerable to contamination from dry cleaners and sewer collection systems.

An assessment of the groundwater sources in the Dyer

Road Well Field was completed in July 2003. This groundwater is considered most vulnerable to contamination from gas stations, historic gas stations, metal plating/finishing/fabrication facilities, military installations and plastics/synthetics producers.

An assessment of the groundwater sources in the Wells 21-22 Desalter Project was completed in May 2009. This groundwater is considered most vulnerable to contamination from sewer collection systems, automobile (gas stations), historic gas stations and underground storage tanks (confirmed leaking tanks).

An assessment of the groundwater sources in the Irvine Desalter Project was completed in March 2006. This groundwater is considered most vulnerable to contamination from crop irrigation and fertilizers.

An assessment of the groundwater source in the Orange Park Acres service area of IRWD was completed in March 2003. This groundwater is considered most vulnerable to contamination from sewer collection systems.

An assessment of the groundwater in the Santiago Canyon service area of IRWD was completed in January 2003. There have been no contaminants detected in the water supply, however the source is still considered vulnerable to contamination from historical mining operations.

Copies of the complete assessments may be viewed at the IRWD Water Quality Department, 3512 Michelson Drive, Irvine. You may request a summary of the assessments by writing to District Secretary, Irvine Ranch Water District, 15600 Sand Canyon Avenue, Irvine, California 92618.



Sustainability is our way of life



We live in a semi-arid, drought-prone environment and need to use our high-quality water supplies as efficiently as possible. Because about 60% of household water use occurs outdoors, it pays to focus on saving water outside. Here are some things you can do to reduce outdoor water use:

- Replace grass with drought-friendly landscaping, including permeable ground cover and hardscape.
- Adjust watering times monthly to match the weather. Weather-based irrigation controller rebates are available.*
- Water landscape before 8 a.m. or after 5 p.m. and avoid watering at windy times of the day.
- Check irrigation systems for leaks and overspray, promptly repairing or adjusting the system as needed.
- Apply mulch around trees, shrubs and flowers. Mulch also naturally reduces weed growth.
- Replace sprinkler heads with rotating spray nozzles or convert to drip irrigation. Rotating spray nozzle rebates are available.*



The IRWD RightScape program offers many other helpful resources, such as rebates, classes, training and efficient sprinkler and drip irrigation schedules. Visit RightscapeNow.com to learn more.

Live in an apartment or condo? There are still ways to save!



- Use a water-efficient clothes washer, dishwasher and shower nozzles. Clothes washer rebates are available.*
- Run only full dishwasher and clothes washer loads.
- Don't wash or hose down hardscapes when you can sweep instead.
- Take 5-minute instead of 10-minute showers and be sure to use a water-efficient shower head.

*Rebates available while funding lasts.

Below, in yellow highlight, is billing message printed at the top of all July 2020 IRWD customer bills.

Drink up! 2020 Water Quality Report is here

IRWD drinking water meets all of the exacting California and federal quality standards. Learn more in the new 2020 Water Quality Report, available now at [IRWD.com/water-report](https://www.irwd.com/water-report). To request a printed copy, email info@irwd.com with the subject line "Water Quality Report" or call 949-453-5500.

Having trouble paying your bill?

If you are experiencing financial difficulties, please contact Customer Service at CustomerService@irwd.com or **949-453-5300**. IRWD is not charging late fees or disconnecting service until further notice.

In This Issue:

California Native Plant
of the Month

Create an Edible
Garden Webinar

Fix a Leak
Contest Winners

Ask Juan

pipelines

JUNE 2020 | NUMBER 6



Irvine Ranch
WATER DISTRICT

Get The Dirt in Gardening Newsletter

Looking for garden inspiration? You can find it in *The Dirt*, IRWD's new electronic newsletter dedicated to promoting beautiful and water-efficient landscapes in our local Southern California climate.



This quarterly publication will provide helpful tips, resources, and ideas—everything you need to know to create a beautiful outdoor retreat with a plant and color palette that gives your yard interest and saves water too.

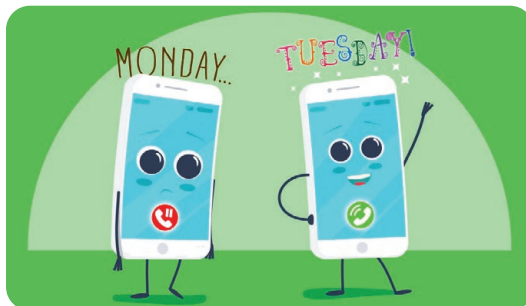
To read the spring issue and sign up to receive future copies in your email each season, visit RightScapeNow.com/The-Dirt.

Water Quality

IRWD meets all of the exacting quality standards set by the state and federal government. Visit IRWD.com/water-report to read or request a copy of the new annual Water Quality Report, released this month.

How We're Helping You Through This

IRWD remains committed to serving you as we navigate the COVID-19 pandemic together. Here are highlights of how we're responding, and tips to help you manage your account.



Need to call? Avoid Monday.

IRWD offices remain closed to the public, but we're still here for you. Most transactions can be completed on IRWD.com, or by email at CustomerService@IRWD.com. Full-service agents are available 8 a.m.–5 p.m., Monday–Thursday. If you prefer to call, dial **949-453-5300**. We are experiencing high call volume—and long wait times—on Mondays. So we recommend you call on Tuesday, Wednesday or Thursday. For quick links to 24/7 service, visit IRWD.com/services.



Water education and science fun.

IRWD and Discovery Cube have taken our kids' water-education program online, with free webinars and activities you and your children can do at home. Grade-specific content teaches the science of water and the value of efficiency. Open to all K–8 students in our district. Visit oc.discoverycube.org/irwd-portal. Email Info@IRWD.com to ask for a password.

Meeting rooms closed. IRWD community meeting rooms are closed until further notice and we are not accepting any new applications. Watch IRWD.com/services for updates, or email Info@IRWD.com.

Extra people at home? You can apply for a temporary COVID-19 variance to



increase your water budget. See IRWD.com/variance.

Returning to a closed building?

When a building or home has been closed for weeks, the stagnant water needs to be flushed. Simultaneously turn on all faucets for 10–15 minutes and flush all toilets. Run refrigerator water to refill the line, and dump 3–5 cycles of ice. Set the water heater to 140°F or higher. Learn more at IRWD.com and bit.ly/cdc-buildings.

No late fees or shutoffs. Having trouble paying your bill? Don't worry. Talk to Customer Service. IRWD will not charge late fees or disconnect service until further notice.

►► YOUR SERVICE RESOURCE ◀◀

Need service? Want updates? Visit our Coronavirus Resource Page at IRWD.com/services.

Cheers! Quality Report Is Here

Irvine Ranch Water District drinking water meets all of the exacting California and federal quality standards. Learn more in the new 2020 Water Quality Report, available now at IRWD.com/water-report. To request a printed copy, email info@IRWD.com with the subject line "Water Quality Report" or call 949-453-5500.



Q: Juan, my watering seems to increase in the summer. Any advice?

A: Welcome to the peak time of year when water use is at its highest, especially for those grassy areas. This is the perfect time to consider, "How much grass do I need?" Does it serve a purpose? I like to barbecue and play with my kids on my backyard lawn. I used to have a lawn in my front yard that used quite a bit of water, but I took advantage of the turf removal

program to convert it into a water-friendly landscape. I kept my back lawn for recreation. Consider taking advantage of IRWD's turf removal program—which offers \$3 per square foot—to renovate your landscape. Visit RightScapeNow.com/rebates to learn more.

Got landscape questions? Email AskJuan@IRWD.com or ask on Facebook, Twitter or Instagram with [#irwdcommunity](https://twitter.com/irwdcommunity). See past answers at RightScapeNow.com/landscape-resources/ask-juan.

California Native Corner Juan's July Plant: Desert Willow

Desert Willow (*Chilopsis linearis*) is an attractive deciduous shrub that can be grown as a single- or multi-trunk small tree. Native to the southwest U.S. and Mexico, it blooms May–September. The fragrant, trumpet-shaped flowers vary in color—from white to lavender to pink—and attract hummingbirds, caterpillars and bees. Desert Willow grows fast and will tolerate any soil condition from arid to moist. It is an excellent addition to home landscapes and particularly effective near decks or patios. — Juan



Q: Does my IRWD water budget change throughout the year?

A: Yes, for customers with a yard to water, the water budget will change by season. In the summer, when it's hot and the days are longer, your budget will be slightly higher because plants need more water. When the days get shorter and it's cooler or rains, your water budget decreases. Even if the weather is hot in the fall, less water is needed to keep your landscape healthy than in summer months. The daylight hours are shorter, and plants use less water. Learn more at WateringGuide.com and IRWD.com/rates-charges.

Got a question for this new feature? Email info@IRWD.com with "Ask Customer Service" as the subject line.



It Only Takes Seconds for a Child to Drown

Drowning is the leading cause of accidental death for kids under 5 in Orange County. So never leave a child alone near water. Pools should have fences, alarms and drains that meet regulations. And caring adults should learn CPR and water rescue skills. It just might save a life.

Always watch your child around water.

To learn more, visit DrowningPreventionOC.org






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Water District

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Watch Us
[youtube.com/
IrvineRanchWD](https://youtube.com/IrvineRanchWD)

Follow Us
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24-Hour Customer Service: 949-453-5300
Email: customerservice@IRWD.com
Address: 15600 Sand Canyon Avenue, Irvine, CA 92618
Website: IRWD.com

Board of Directors:
Mary Aileen Matheis – President, Douglas J. Reinhart – Vice President,
Steven E. LaMar, Peer A. Swan, John B. Withers
General Manager: Paul Cook, PE

8"x 5" postcards sent to notify customers about availability of IRWD 2020 Water Quality Report

Mailed to 61,875 eBill customers (who are not receiving printed bills with *Pipelines* newsletters):

WATER QUALITY REPORT NOW AVAILABLE

BE IN THE KNOW.

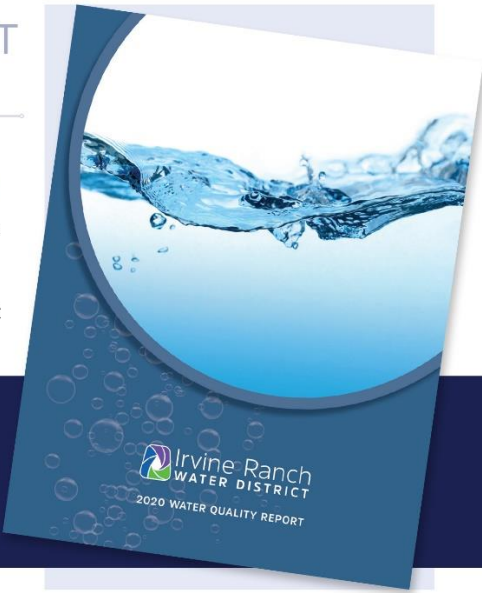
Finding out what's in your water is as transparent as water itself.

The 2020 Water Quality Report is now available. Learn about the measures Irvine Ranch Water District takes to ensure safe, reliable, quality drinking water. Simply visit IRWD.com/water-report.

To request a printed copy, email info@IRWD.com with the subject line: Water Quality Report, or call **949-453-5500**.

YOUR WATER AT A GLANCE

- Meets or exceeds all state and federal water quality standards
- 100,000+ water quality analytical results reported annually
- More than 100 sample points throughout the District



Mailed to 6,050 landlords or property managers (who are not receiving printed bills with *Pipelines* newsletters):

WATER QUALITY REPORT NOW AVAILABLE

SO YOUR TENANTS ARE IN THE KNOW.

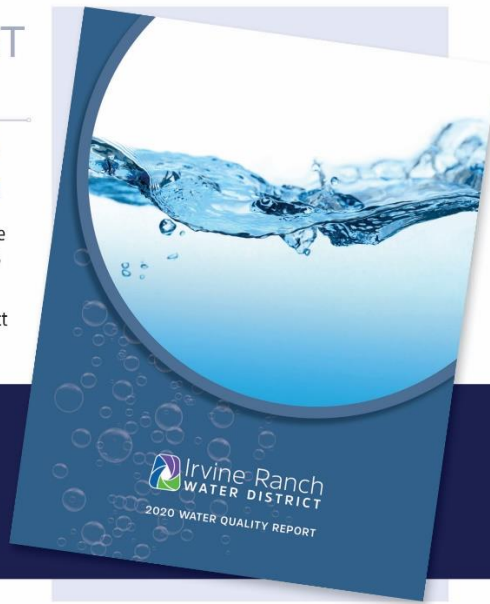
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COMMUNITY

MAY THROUGH OUR LENS



JEFF GRITCHEN — STAFF PHOTOGRAPHER
Jin and Jessica Kim celebrate after getting married at Honda Center in Anaheim on May 12. Public offices of the Orange County clerk-recorder, which issues marriage licenses and performs marriage ceremonies, had closed March 17 because of the coronavirus outbreak, but Clerk-Recorder Hugh Nguyen's staff later began performing marriages from the protection of ticket booths set up in Honda Center's parking lot.



MARK RIGHTMIRE — STAFF PHOTOGRAPHER
A fisherman sits in the shade of an umbrella just after sunrise along the west shoreline of newly reopened Irvine Lake in Silverado on May 16. Orange County had reopened closed parking lots at parks and wilderness areas and posted signs urging social distancing.



LEONARD ORTIZ — STAFF PHOTOGRAPHER
Jacob Welsh takes a photo of Chapman University graduate Emily Cintron, 23, in Williams Mall on May 19. Cintron earned a degree in television writing and production.



JEFF GRITCHEN — STAFF PHOTOGRAPHER
Hundreds of Los Alamitos High School seniors cheer their recent graduation during a vehicle parade through Rossmore on May 27. The procession was organized by the Rossmore Homeowners Association and wended its way past four elementary schools.



MINDY SCHAUER — STAFF PHOTOGRAPHER
A herd of goats does fire prevention duty in Laguna Beach on May 27, munching flammable brush while roaming fields and hillsides.



MINDY SCHAUER — STAFF PHOTOGRAPHER
Pup pals Mini Mac, left, and Sugar Pie frolic May 12 at the Orange Dog Park, which had reopened shortly before.



LEONARD ORTIZ — STAFF PHOTOGRAPHER
Army recruit Anthony Hernandez, 20, shown in Irvine on May 21, displays the tattoo whose placement caused the Marine Corps to reject him. The coronavirus pandemic has delayed and changed how military recruiting is done.



LEONARD ORTIZ — STAFF PHOTOGRAPHER
A woman cries as she drops to her knees and raises her arms as she and others protest the death of George Floyd on May 31. The demonstration near the Huntington Beach Pier was in response to the Minneapolis incident in which Floyd, a black man, died as a white police officer knelt on his neck for more than eight minutes.

BE IN THE KNOW.

The IRWD 2020 Water Quality Report is now available at IRWD.com/water-report



Finding out what's in your water is as transparent as water itself. Learn about the measures IRWD takes to ensure safe, reliable, quality drinking water. Simply visit IRWD.com/water-report and you'll be in the know with the 2020 report.

To request a printed copy, email info@IRWD.com with the subject line: Water Quality Report. Or call 949-453-5500.



**VOTE FOR WHO'S
THE BEST IN
ORANGE COUNTY!
& YOU COULD WIN \$100!**



**Vote today for your favorite
places to shop, dine and
play in Orange County!**



**Vote online now until June 30 at
ocregister.com/voteocbest**

For complete rules and information, go to ocregister.com/voteocbest

THE ORANGE COUNTY
REGISTER
Nobody Beats Our Coverage

10 WAYS TO AVOID FORECLOSURE

Orange County - A new report has just been released which reveals 10 ways to avoid losing your home to Foreclosure and what to do to stop your mortgage holder from taking your home. This industry report shows clearly how the traditional ways of foreclosing homes have become increasingly more and more common in today's critical market. The fact of the matter is that fully three quarters of homeowners don't know what to do when facing financial hardship and - worse - they only react when it is too late to avoid losing their home.

As this report uncovers, most homeowners don't know these 10 ways to avoid Foreclosure

that cost them literally thousands of dollars and their home. The good news is that Foreclosure in many cases is entirely preventable. In answer to this issue, industry insiders have prepared a free special report entitled The Homeowner Handbook to Avoid Foreclosure, 10 Solutions For Today's Real Estate Crisis.

To order a FREE Special Report, hear a brief recorded message about how to order your FREE copy of this report call toll-free 1-855-965-2093 and enter 1002. You can call any time, 24 hours a day, 7 days a week. Get your free special report NOW!

This report is courtesy of The Smith Team. "YOUR HOME SOLD GUARANTEED or We'll Buy It" DRE # 01290331. Not intended to solicit buyers.

TODAY'S CROSSWORD PUZZLE

ACROSS

- 1 Street edge
- 5 Exasperates
- 9 Chic's opposite
- 14 Emmy's relative
- 15 Carder's tune
- 16 Pointless
- 17 "Lies"
- 18 Motion picture
- 19 Horse's bedding
- 20 Clergy member
- 22 Land, to Caesar
- 24 Directed
- 26 Served the wine
- 29 Jungle noises
- 31 Had one's say
- 33 Scoundrels
- 36 Takes legal action
- 38 Copy-machine supply
- 39 Part of mpg
- 40 Autobiography
- 42 Thuman of "The Golden Bowl"
- 43 Originate
- 45 Positive
- 46 Enumeration
- 47 Noiseless
- 49 Flood barrier
- 51 Filled with joy
- 53 Comes to terms
- 57 Non-social person
- 59 Home turnover
- 60 Dinetto piece

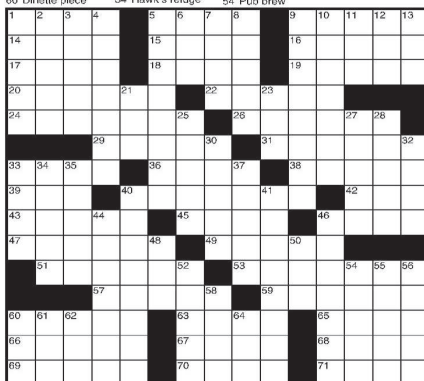
DOWN

- 1 Free tickets
- 2 Louisiana sinker (myth.)
- 3 Sison offering
- 4 Safari aides
- 5 Grow
- 6 Louis XIV, e.g.
- 7 Dover's county
- 8 Catch some z's
- 9 Upsets
- 10 A Great Lake
- 11 Armed conflict
- 12 Double helix
- 13 Longbow wood
- 21 Spanish gold
- 23 Tigger's friend
- 25 Rock band
- 27 Boredom
- 28 Tegaras as
- 30 City near inchon
- 32 Mid expletive
- 33 Form 1040
- 34 Hawk's refuge

PREVIOUS PUZZLE SOLVED

CALLIF AGAPER OVALS
ALATISANER OVAL
SUMS UNDERSCORE
AMAHSGFUTPAWED
DOHLES MYUTERS
ARGYLE PEASPEEW
LILSNORERS ESEA
DGEDMEK ENCIETY
ADDRESS REMISS
OAT RADON
LILIPS LILV NESTIS
ANALYTICAL MOON
DIRS OMEGA ALMA
STAT PORES SEEP

6-11-20 © 2020 LP-S, Ltd. by Andrew McMeel for LH-S



Want more puzzles?
Check out the "Just Right Crossword Puzzles" books
at GuilDriverBooks.com

ADOPTABLE DOG

Abby dearly loves her lap time

Breed: Chihuahua mix

Age: About 4 years

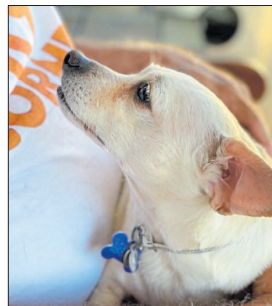
Gender: Spayed female

Size: 13 pounds

Abby's story: Abby loves laps and boiled chicken, though not necessarily in that order. She's trained to sleep in a crate or stay in one if you're gone for a short time. She would prefer an adults-only home. She's current on vaccinations and microchipped.

Adoption procedure: Apply online at KenMarRescue.org.

— Maryanne Dell



Chihuahua mix Abby is ready to snuggle in your lap.

ADOPTABLE CAT

Ex-stray Tommy just wants some love in his golden years

Breed: Domestic shorthair

Age: About 10 years

Gender: Neutered male

Tommy's story: Tommy was found wandering alone in downtown Long Beach. He is a very sweet, loving boy who deserves a loving home and person (or people) with whom to spend his golden years. He is vaccinated and microchipped.

Adoption donation: \$50

Adoption procedure: Contact Lorraine with Long Beach Spay & Neuter Foundation at 562-544-0335 or lbn2006@yahoo.com to arrange a meeting.

— Maryanne Dell



Tommy has been on his own and is ready for a home.

FOOD

OC Animal Care launches pop-up pantries for pets

By Susan Christian
Goulding
sgoulding@uscg.com
[@sgoulding](https://twitter.com/sgoulding) on Twitter

Pop-up pantries have popped up around Orange County, providing groceries during the coronavirus pandemic.

"We are helping people who have lost jobs to feed their families — and pets are family members, too," said Orange County Supervisor Andrew Do.

That's why OC Animal Care decided to launch its own food giveaway — with the support of the county Board of Supervisors.

On Saturday morning, the shelter will debut its Family Fur-st Food Pantry, slated to take place the second Saturday of every month.

"All of us have pets that



HUMANE SOCIETY SILICON VALLEY

A foster cat plays with a coronavirus toy. On Saturday morning, OC Animal Care will debut its Family Fur-st Food Pantry, at which owners of cats, dogs or rabbits can obtain free pet food. The event will be ongoing, slated to take place the second Saturday of every month at the agency's shelter at 1630 Victory Road in Tustin.

Supervisor Lisa Bartlett, dog, cat or rabbit from 8-10 a.m., while supplies last.

in economic crisis to not have to abandon their pets

shelter," Do said.

Sometimes it can be hard to place pets in a new home.

The easiest and best solution is to keep families intact — including pets."

To meet social distancing recommendations, the drive-thru — allow attendees to remain in their vehicles while volunteers load the food.

Families are asked to

leave their pets at home to make the event as efficient

— and calm — as possible.

OC Animal Care is still closed to visitors but continues to provide adoptions by appointment.

"Our staff is limited right now, so we are accepting only emergency surrenders," said OC Animal Care spokeswoman Jessica Novillo, adding the shelter can help with locating rescue organizations.

Currently, the shelter has

about 200 animals on-site — half the usual number — and 300 being cared for by fosters, Novillo said.

"But the interest in adoption hasn't dropped," she said, "and more people have become interested in fostering."

Bartlett said that she hears about people inspired to bring home a pet for company during restrictions limiting gathering.

"Pets provide great entertainment," Bartlett noted. Do hopes the program will survive for at least a couple of years.

"It will take awhile for the economy to recover," he said.

The shelter partnered with the Animal Assistance League of Orange County, SoCal Animal Response Team and The Shamrock Rescue Foundation to establish the program.

Those interested in supporting the effort can donate food to the Animal Assistance League's Amazon wish list.

The OC Animal Care facility is at 1630 Victory Road in Tustin. For more information about the Family Fur-st Pet Food Pantry and future events, please visit the OC Animal Care website at ocpetinfo.com.

BE IN THE KNOW.

The IRWD 2020 Water Quality Report is now available at IRWD.com/water-report



Finding out what's in your water is as transparent as water itself. Learn about the measures IRWD takes to ensure safe, reliable, quality drinking water. Simply visit IRWD.com/water-report and you'll be in the know with the 2020 report.

To request a printed copy, email info@irwd.com with the subject line: Water Quality Report. Or call 949-453-5500.



Hoag

FROM PAGE 1

patients through the use of VR experiences, Louis said.

With such significant reductions in pain, there is less need to use opioids to reduce pain — thereby reducing the possibility of opioid addiction.

"We're hearing some patients with a pain score going from an 8 to a 3," Louis said. "If you start off with a pain score of 8, the normal prescription would be morphine or fentanyl."

When you have a pain score of 3, the normal prescription is Tylenol.

"Each time we can lower the dose of opioids, we can prevent maybe one more person from becoming addicted," Louis added. "We're losing 50,000 a year in the U.S. to opioid overdoses."

Though a significant number of patients have experienced a "substantial reduction in pain," the technology doesn't work on everyone, Louis said.

Some of the new VR technology used by Hoag involves educational video games that center on how pain works, Louis said.

"Understanding pain is one of the key features," he said.

In another VR program,

patients wearing a headset are shown dead tree. They are instructed to take long, deep breaths as a microphone records the depth of the breaths. As the patient's breathing relaxes, the tree begins to grow and blossom and come back to life.

Lipot calls swimming her "happy place," but she hasn't been able to enjoy the therapeutic activity for 10 years.

When she made eye contact with a whale in the VR setting, she found herself "literally crying."

"I was really pleased that I was able to experience swimming under the water," Lipot said, "without swimming under water."

SURVIVING THE SHUTDOWN

UCI junior all alone in student housing

By Keith Sharon

ksharon@ocregister.com
@KeithSharonOC on Twitter

He danced around his empty apartment.

He turned up music by DJ Flume really loud and no one complained. He would walk through the maze of apartments toward the community garden, passing the normally crowded pool, hot tub and gym and he wouldn't see anyone. He spent lots of time alone with the vegetables.

It was like he was trapped in a zombie movie, just before the invasion.

After his roommates moved out and almost all of his neighbors moved out in mid-March, Johannes Dimopoulos often found himself feeling lonely in UC Irvine's Camino del Sol student housing. In reality, 819 of the 1,198 students living at Camino del Sol said good-bye. Dimopoulos lives in a three-story place with only the echoes of his own foot-steps to keep him company.

Welcome to the empty world of student housing during the stay-at-home era. "At first, it was great," said Dimopoulos, who is on scholarship and has no plans to leave in the near future. Why would he be as a Regents Scholar, walk away from free housing?

After the dancing and



PAUL BERSEBACH — STAFF PHOTOGRAPHER

Scholarship student Johannes Dimopoulos is one of the few people left in student housing at UC Irvine after the university shut down on-campus instruction because of the coronavirus. He says the lack of human contact can weigh on him mentally.

the feeling that he could do whatever he wanted ...

It got weird.

"I cannot be by myself for the next seven months," he said. "By the end of April, I knew this was taking a toll on my mental health."

There is, he said, a solution.

Just wait until you read what Dimopoulos is going to do to keep his sanity.

'I took control'

Dimopoulos is a big kid. Too big. He's 6-foot-4, 280 pounds. Junk food, stress

eating pounds, he said. He grew up in Pasadena, a smart kid who got poor grades in school.

A few years ago, he was in an Old Navy store when his life changed.

"I saw someone in the mirror and I didn't recognize him," he said. "He was me."

That same afternoon, he decided to switch to a plant-based diet.

"For the first time in my life, I took control," he said. "Every aspect of my life improved."

He started walking and biking (he has never owned a car). Over the next year and a half, he lost more than 100 pounds.

And he noticed something.

"People would treat me completely differently when I lost the weight," he said.

He graduated from Pasadena High School and attended Pasadena City College, where his grades improved enough that he could get a full ride to UCI to study computer science.

Newly fit, Dimopoulos

found UCI was a good place to study and socialize.

'It's a weird shift'

He was rolling along this semester, taking 20 units (with courses such as discrete math, economics, computer science and business management). He is set to graduate in 2021. He was working for the U.S. Census Bureau, riding his bike to the office.

He had tickets for Coachella and several other concerts.

Then he got an email. Everything had shut down. His job put him on indefinite furlough. Coachella postponed. UCI sent almost everyone home. His classes went entirely online.

Dimopoulos considered trying to move in with his parents. But neither had enough space for him to be comfortable.

So he just stayed at Camino del Sol.

"It doesn't feel like the same university," he said. "It's a weird shift."

His life used to be crowded, waiting for an empty chair in the study carrels, waiting for workout stations at the gym, waiting for food.

The university is trying to stay in touch.

"Since the majority of our students have moved back home, the residential

life staff now call them each week to check in on them in an effort to keep them engaged," said Sheri Ledbetter, a UCI communication officer.

Now Dimopoulos just waits for the clock to tick. His only socialization is Zoom chats with friends. They watch streaming shows together and make comments about "Inception" or "The Mandalorian." He finds himself meditating.

A lot.

He said he hit a rough patch in which he started to lose track of what was real and what was not. It was a disconnected feeling, he said. Depression sank in. It was tough to get out of bed.

He ended up in online therapy. That's when he got an idea.

Isolation solution

Johannes Dimopoulos is going to battle his solitary, student-housing isolation by getting a dog.

He hasn't set the date yet, but a dog is in his plans.

"The thought of not having a dog sounds horrible to me," he said. "This kind of isolation is not good."

The dog, he said, can't be too big, or too small.

He's leaning in one particular direction.

"I think I'll get a corgi," he said.

GRADUATION

Will Ferrell rings up grads at his alma mater, University High

By Jeong Park

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Graduating seniors of Irvine's University High got a bit of a surprise June 4 from the school's most well-known alum.

"It's Will Ferrell giving a shout-out to the graduating class of University High School," Ferrell said in a video message shared by the school's principal, Kevin Astor.

Ferrell graduated from

the school in 1986.

"I know this wasn't what you were hoping for or what you expected when you began the school year," he told the students. "But here's the good news: You're graduating, and you did it!"

As with most schools in Orange County, University High is not hosting a physical graduation ceremony because of the state's stay-at-home order to prevent the spread of the coronavirus. But

the school hosted virtual graduations with student performances, video and photo montages, including one from Ferrell.

"Four friends and family could not be prouder of you," Ferrell said. "Thinking about you guys and go, Trojans."

He then broke into the song "Sicko Mode."

"I have a DJ who lives here with me," he said, "but I'm not allowed to show him to you."



FACEBOOK

Will Ferrell speaks June 4 to the graduates of his alma mater, University High in Irvine, to celebrate their achievement.

Protests

FROM PAGE 1

lit candles. They staged a long moment of silence and built a temporary shrine to Floyd.

"If we don't make real changes as individuals and collectively, we will be back here in five years. History has a way of repeating itself." Mission Viejo resident D.J. McAllister, 25, a computer salesman, told the crowd.

The Newport Mesa Irvine Interfaith Council released a statement condemning the death of Floyd while in police custody, but Executive Director Akbar Hussaini said members started asking why they weren't doing more.

So the members — a broad coalition of leaders of local Jewish, Buddhist, Sikh and Christian congregations — on Monday staged a news conference to further spread their message of opposition to racism and injustice, and they planned a march in support of unity and the Black Lives Matter movement this weekend in partnership with the Irvine Police Department.

At the news conference, the interfaith council invited the community to the march, planned for Saturday in Irvine.

"We have come to a moment in time when the nation needs to see faith leaders standing together representing the community and acknowledging that we have more in common than we have in

difference," said the Rev. Ralph Williamson, whose Christ Our Redeemer AME Church will help lead the march. "We stand here believing we can move forward and make change where change is needed."

Hussaini said the group opted to have a peaceful unity march and invite Irvine police to join because "I can be a supporter of law enforcement and still speak out against those who abuse the law."

Irvine Police Chief Mike Hamel said he was very troubled by the video of an officer kneeling on Floyd's neck even after he became unresponsive. Although he said Irvine police don't have a history of violent interactions with the community, "There's always opportunities for growth. Not every contact [with the police] is perfect."

Hamel and Jason Aguilar, a pastor at the evangelical Arise Church in Irvine, both said they'll use this time of unprecedented participation in protests to listen, because there's no shortcut to addressing big questions about law enforcement policies and how to be more tolerant as a society.

"We want to see policy change," Aguilar said. "But before any of that change can happen, there has to be honest conversation."

The unity march will start at 10 a.m. Saturday at Christ Our Redeemer AME Church, 45 Tesla, Irvine, and will proceed to Los Olivos Marketplace, 8501 Irvine Center Drive, and back to the church, where a rally will occur in the parking lot.

Cancer

FROM PAGE 2

ogy, chemotherapy and radiation treatments. In addition, a clinical research center for clinical trials will be located in the building.

The project will "deliver pioneering research and lifesaving treatment," said Annette Walker, president of City of Hope, Orange County.

The building is one of four originally intended as the new headquarters for chipmaker Broadcom. But Singapore-based semiconductor company Avago acquired Broadcom in 2016, assumed its name and moved its new headquarters to Silicon Valley.

Five Point, the property's original owner as well



FIVE POINT HOLDINGS

This 190,000-square-foot, four-story building next to the Orange County Great Park in Irvine has been acquired by the City of Hope for \$108 million. The cancer center eventually hopes to develop the site into a \$1 billion treatment center with a hospital and research facility.

as the developer of the project, repurchased the land. Broadcom leases two of the buildings on the

FivePoint Gateway campus, and a third building is occupied by Five Point and its principal shareholder, homebuilder Lennar.

City of Hope — designated by the National Cancer Institute as one of 49 comprehensive cancer centers in the country — currently has centers in Los Angeles, Riverside and San Bernardino counties.

The center is expanding into Orange County because of its roughly 3,500 cancer-stricken patients who must drive an average of 88 miles round trip to get to one of its treatment facilities.

Five Point said it envisions the Irvine center eventually becoming the anchor for a larger medical campus, offering a variety of wellness services and research beyond cancer treatment.

Irvine Affordable Housing Interest List Now Open

The Irvine Community Land Trust, a nonprofit organization responsible for bringing affordable housing opportunities to Irvine, is pleased to announce the interest list for our latest community is now open. Sign-ups will be accepted through July 15.

Located at the corner of Nightmist and Sand Canyon Avenue in Irvine, Salerno offers 80 homes to the city's most vulnerable populations, including:

- 15 units for veterans
- 10 units for individuals with developmental disabilities
- 10 units for those at risk of homelessness
- 34 units for those earning less than 50 percent of the area median income (AMI)
- 10 units for those earning less than 80 percent AMI

Rents will be as low as \$550, \$625 or \$695 a month for one-, two- and three-bedroom units.

The ICLT provides secure, high-quality affordable housing our residents can be proud to call home. Salerno's amenities include a pool, community and exercise rooms, lot and accessible elevators.

There are two ways to sign up:

- Visit www.irvineclt.org/salerno
- Call (949) 585-9547

Please note: Residency is NOT on a first-come-first-served basis. The City of Irvine requires a lottery taken from this interest list for initial residency. Those chosen will undergo a rigorous qualification check.



Learn more at www.irvineclt.org



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Finding out what's in your water is as transparent as water itself. Learn about the measures IRWD takes to ensure safe, reliable, quality drinking water. Simply visit IRWD.com/water-report and you'll be in the know with the 2020 report.

To request a printed copy, email Info@IRWD.com with the subject line: Water Quality Report. Or call 949-453-5500.



Phone

FROM PAGE 1

Zackery, had never seen a phone that looked anything like the one that is positioned on one side of the phone booth.

In fact, Zackery had never seen a phone booth at all.

"I thought it was strange that it had a cord and that you had to put money in to make a call," the grandson said.

And Ray has his grandson insert a dime when using the phone to have that real experience.

"But in truth, the phone will work without it," Ray said. "Someday I'll empty the coin box and give him all his dimes back."



PHOTOS BY MINDY SCHAUER — STAFF PHOTOGRAPHER
Jerry Ray's daughter Marissa Keller makes a call to Ray's grandson Zackary Ray, 9, on Jerry Ray's refurbished and fully functional 1950s phone booth that sits in his Mission Viejo garage March 31.



Few people under age 40 have even seen, much less actually used, a rotary telephone such as the one installed in Jerry Ray's refurbished phone booth.

Agreement

FROM PAGE 1

cial to find a repository, and to take San Onofre's waste first when relocation time finally arrives.

Though some officials worried the money might not be enough — "If we have a terrorist attack or something else occur, we could be in a world of hurt until we get those canisters off-site," said Orange County Supervisor Lisa Bartlett — critics objected to a confidentiality clause they say will block the release of important information to the public.

The agreement was approved by all five government entities this week.

Risk and money

The emergency risks posed by San Onofre have grown smaller. The plant ceased splitting atoms in 2012, eliminating the chance of a catastrophic core meltdown, and all spent fuel is slated to be out of cooling pools soon.

"After all the spent nu-

clear fuel is in dry storage this summer, San Onofre will be primarily an industrial deconstruction site for the next eight years," said Doug Bauder, Edison vice president and chief nuclear officer, in a statement. "We value our longstanding relationships with the local jurisdictions and maintaining our association with our local first responders, for the long term is important to us and to the community."

The new agreement will be \$10.2 million over the life of the agreement, and supervisors worry that might not be enough.

"These funds cover just the basics," Bartlett said. "If there's an incident, those bills are going to be really big. Evacuation of cities. Nuclear fuel leaking into atmosphere. I need to have confidence SCE will step up to the plate."

Donna Boston, director of emergency management for the Orange County Sheriff's Department, said that if an emergency costs agencies more money, the agreement allows them to bill Edison for the excess.

"One reason for that is the drastically reduced risk posture of the site," spokesman John Dobken said by email. "During operations, there were 82 emergency action levels (or adverse plant conditions) for San Onofre. Once all the spent fuel is in passive dry storage, there will be three. None involves an off-site radiological release, even as earthquakes or aircraft impacts."

Orange County's total will be \$10.2 million over the life of the agreement, and supervisors worry that might not be enough.

Donna Boston, director of emergency management for the Orange County Sheriff's Department, said that if an emergency costs agencies more money, the agreement allows them to bill Edison for the excess.

Edison is proud of the agreement. To its knowledge, no other decommissioning plant in the nation is continuing to support local emergency response at this level, it said.

Confidentiality clause

Some activists objected, particularly to one clause. "No party will use, copy, adapt, alter, part with possession of or otherwise disclose any information or record of another party ... which is of a confidential nature or has been identified as confidential ... in accordance with applicable Federal and California State laws," the agreement says.

"The confidentiality clause allows Edison to hide radiation levels and other information the public should have a right to know," said Donna Gilmore in a letter opposing the agreement. "This clause should not have free rein to decide what should be kept from the public. Don't allow Edison to have the unlimited authority to censor our government from informa-

tion the public needs and deserves to know."

In fact, Edison said, the confidentiality clause was added at the request of Orange County, not the company. The state's public records laws still would apply to government records.

Edison recently unveiled its first batch of monthly radiation-monitoring data through the California Department of Public Health — an attempt to allay community concerns about the "nuclear waste dump on the beach," as critics have called the dry storage systems. Monitors are placed at strategic points on the pads, with a control monitor on a hill above.

Real-time reports?

Critics say it's not enough. They want real-time radiation reporting, and monitors placed directly at outlet air vents for the more than 130 canisters that will soon be in storage.

"Unless monitors are located near the outlet air vents, we won't know which canisters are failing," Gilmore said.

Edison said this may re-

fect a misunderstanding between radiation and contamination.

"Radiation is like heat from a fire. Put something in front of it and you don't feel the heat, or as much heat," spokesman Dobken said. That's what the systems do with their canisters and concrete shielding. Readings at the vents versus the sides or front would not be different from a radiation perspective, he said.

Contamination, though, would require a breach of the canisters allowing material from inside the canister to work its way out via the air vent.

"Underlying this theory is the false belief the canisters are cracked," Dobken said. "They aren't. We conduct surveys of the areas around the (dry storage systems) so would see any of this material if it existed. But it doesn't."

Edison measures radiation on-site and reports that to the Nuclear Regulatory Commission and the state. "If there were contamination going on, we would find that," Dobken said.

"Doing something like this was so bizarre to them," said Valdez, who is 17 and lives in Aliso Viejo. While the friends who disagreed with her believed what happened to Floyd was bad, they were put off by the possibility that something violent, like what happened on May 30 in Santa Ana, could happen at her march.

Don't get too close to Fashion Island, they told her — that's our mall.

"That was so weird to me," Valdez said. "Like, out of everything that's happened, that's the battle you're going to fight?"

But she has black friends, too, and wanted to stand up for them.

Generation

FROM PAGE 1

of them have done so far, and plan to keep doing so.

The physics of change

Even at just 23, Alecia Robinson figures she's one of the oldest members of a group of mostly African American activists in Orange County who have been planning and promoting George Floyd marches and demonstrations in local communities.

The group wishes to remain anonymous, she said, but the members met at past rallies, forums and other events and decided to network behind the scenes. Besides organizing some of the protests, they also direct like-minded people to other events. Those, they say, they yet to make sure the organizers are who they claim to be and are sincere in their message.

Robinson, who is African American, grew up in Temecula and now lives in Costa Mesa, where she is using the Nextdoor app to reach out to her neighbors.

Her activism began while she attended the Univer-

sity of Arizona as a physics major. She was motivated by the election of President Donald Trump in 2016 and spurred on by Trump-era policies such as the 2017 decision to end the Deferred Action for Childhood Arrivals Program that impacts children of Latino and Asian immigrants.

On furlough from her job as a hotel receptionist, Robinson has used her free time to dive deep into what she and others her age see as a pivotal moment in the nation's history.

Robinson organized and spoke at one of four protests that took place in Newport Beach on June 3. The different groups eventually merged into one demonstration at the Newport Beach Pier.

To Robinson, the energy is different from four years ago, when the arrival of the Trump administration prompted millions to march in the streets.

It seems to be youth at the forefront of this movement," said Robinson, who, with her fiancé, is raising a 20-month-old son even as she continues her schooling.

"They always say that young people are the ones

who are going to make the change. The fact that they are leading this protest almost guarantees that change in my eyes."

Young people: Young people of different backgrounds, ethnicity and races are allies with their African American counterparts.

Most of the protests she was involved in previously were attended mostly by black, Latino and Asian marchers. This time, there is a strong presence of white suburban youth.

She said older people also are interested in the issue of racial justice, including some neighbors who have responded to her on Nextdoor.

Teenage movement ninjas

Schoolmates and good friends Khamryn Saunders, 16, and Meilani Barcinas-Dixon, 15, were stand-in organizers of a protest June 3 in Los Alamitos. They had to step in because another friend, close in age, got only as far as creating a flyer to promote the gathering before she had to drop out. In just a few days, Saunders and Bar-

cinas-Dixon, who will both be juniors at Los Alamitos High, pulled off a spirited but peaceful rally.

What started out as a crowd of 50 grew to about 130 over nearly four hours. The two girls, both of mixed race and ethnicity, were motivated by a passion rooted in personal experience and social responsibility.

Barcinas-Dixon, who is African American, Latino and Pacific Islander, said a family member was shot and killed by a police officer several years ago in Northern California. She was too young at the time to know much about the details behind that death.

But what happened to Floyd — and in so many other incidents publicized in recent years — only reinforced her sense that change is needed.

"I was like, 'Wow, this should not be happening in 2020,'" she said of what she felt when she first saw video of Floyd's death. Both she and Saunders, who is Puerto Rican and African American, learned about his death on Instagram.

"It's not something we want, and we don't want it for our children and generations to come. We're not ignorant. We know what's go-

ing on."

She asked Saunders to help her with the rally.

"I knew that I had to step up," Saunders said. "Teens need to speak out, spread awareness and seek justice." The protest's crowd included people of every color, they said. "I loved it," Saunders said. "Even the police chief thanked us and said he thought what we were doing was awesome."

Not all young people are buying into that vision of solidarity. Organizing one of the protests in Newport Beach on June 3 seems to have cost Daniela Isabelle Valdez some friendships among her schoolmates at Serrano Catholic High in San Juan Capistrano.

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