IRWD 2021 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 2020 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.

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.

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 waterboards.ca.gov.
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

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@mwdh2o.com.

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.
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.
### Irvine Ranch Water District Local and Imported Drinking Water Quality Results for 2020

<table>
<thead>
<tr>
<th>Chemical</th>
<th>MCL</th>
<th>MRDL</th>
<th>PHG</th>
<th>MRLG</th>
<th>Local Treated Groundwater</th>
<th>Local Treated Surface Water</th>
<th>Imported MWD Treated Water</th>
<th>Range of Detections</th>
<th>MCL Violation?</th>
<th>Typical Source of Contaminant</th>
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<tbody>
<tr>
<td><strong>Radiologicals – Tested in 2020</strong></td>
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<td>Alpha Radiation (µSv/L)</td>
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<td>Decay of natural and man-made deposits</td>
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<td>Uranium (µCi/L)</td>
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<td><strong>Inorganic Chemicals – Tested in 2020</strong></td>
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<td>Treatment Process Residue, Natural Deposits</td>
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<td>Arsenic (ppb)</td>
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<td>Chlorine (ppm)</td>
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<td>Drinking water disinfectant added for treatment</td>
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<td>Chlorine Dioxide (ppb)</td>
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<td>Drinking water disinfectant added for treatment</td>
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<td>Fluoride (ppm) naturally-occurring</td>
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<td>Fluoride (ppm) treatment-related</td>
<td>Control Range 0.6 – 1.2 ppm</td>
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<td>Optimal Level 0.7 ppm</td>
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<td>NR</td>
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<td>0.5 – 0.9</td>
<td>No</td>
<td>Water Additive for Dental Health</td>
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<td>Nitrate (ppm as N)</td>
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<td>10</td>
<td>1.5</td>
<td>ND</td>
<td>ND</td>
<td>ND – 5.0</td>
<td>No</td>
<td>Fertilizers, Septic Tanks</td>
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<td>Nitrate-Nitrite (ppm as N)</td>
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<td>Selenium (ppb)</td>
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<td>ND</td>
<td>ND – 7.2</td>
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<td><strong>Secondary Standards</strong> – Tested in 2020</td>
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<tr>
<td>Aluminum (ppb)</td>
<td>200</td>
<td>600</td>
<td>24</td>
<td>64</td>
<td>137</td>
<td>ND – 260</td>
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<td>Treatment Process Residue, Natural Deposits</td>
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<td>Chloride (ppb)</td>
<td>500</td>
<td>n/a</td>
<td>24</td>
<td>64</td>
<td>94</td>
<td>13 – 94</td>
<td>No</td>
<td>Leaching from Natural Deposits; Sea water influence</td>
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<td>Color (color units)</td>
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<td>&lt;3</td>
<td>&lt;3</td>
<td>1</td>
<td>ND – 7</td>
<td>No</td>
<td>Naturally-Occurring Organic Substances</td>
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<td>Odor (OTN)</td>
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<td>2</td>
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<td>ND – 3</td>
<td>No</td>
<td>Naturally-Occurring Organic Materials</td>
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<td>Manganese (ppb)</td>
<td>50</td>
<td>50</td>
<td>&lt;20</td>
<td>200</td>
<td>216</td>
<td>3.2 – 271</td>
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<td>Leaching from natural deposits; industrial wastes</td>
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<tr>
<td>Specific Conductance (µmhos/cm)</td>
<td>1,600</td>
<td>426</td>
<td>909</td>
<td>910</td>
<td>323</td>
<td>975</td>
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<td>Ions in water; Sea water influence</td>
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<td>Sulfate (ppm)</td>
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<td>Total Dissolved Solids (ppm)</td>
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<td>574</td>
<td>592</td>
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<td>Runoff or Leaching from Natural Sources</td>
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<td>Turbidity (NTU)</td>
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<td>0.10</td>
<td>ND</td>
<td>ND – 0.65</td>
<td>No</td>
<td>Emission of Natural Deposits</td>
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<tr>
<td><strong>Unregulated Contaminants – Tested in 2020</strong></td>
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<tr>
<td>Alkalinity, Total (ppm as CaCO₃)</td>
<td>Not Regulated</td>
<td>n/a</td>
<td>148</td>
<td>172</td>
<td>118</td>
<td>62 – 228</td>
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<td>Runoff or Leaching from Natural Deposits</td>
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<td>Bicarbonate (ppm as HCO₃)</td>
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<td>n/a</td>
<td>175</td>
<td>209</td>
<td>94</td>
<td>74 – 235</td>
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<td>Runoff or Leaching from Natural Deposits</td>
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<td>Boron (ppm)</td>
<td>NL = 1</td>
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<td>0.13</td>
<td>0.13</td>
<td>ND – 0.53</td>
<td>n/a</td>
<td>Runoff or Leaching from Natural Deposits</td>
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<td>Bromate (ppb)</td>
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<td>&lt;0.10</td>
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<td>Calcium (ppm)</td>
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<td>35</td>
<td>74</td>
<td>66</td>
<td>2.6 – 100</td>
<td>n/a</td>
<td>Runoff or Leaching from Natural Deposits</td>
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<td>Carbonate (ppm)</td>
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<td>2.9</td>
<td>&lt;1</td>
<td>1.8</td>
<td>ND – 21</td>
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<td>Runoff or Leaching from Natural Deposits</td>
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<td>Chloride (ppb)</td>
<td>NL = 800</td>
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<td>NR</td>
<td>NR</td>
<td>69</td>
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<td>Corrosivity (Aggressiveness)</td>
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<td>11.8</td>
<td>12.2</td>
<td>12.4</td>
<td>10.7 – 12.4</td>
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<td>Elemental Balance in Water</td>
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<td>Corrosivity (Langler Index)</td>
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<td>0.39</td>
<td>0.59</td>
<td>-1.0 – 0.69</td>
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<td>Elemental Balance in Water</td>
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<td>Hardness, Total (ppm as CaCO₃)</td>
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<td>n/a</td>
<td>119</td>
<td>308</td>
<td>266</td>
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<td>Runoff or Leaching from Natural Deposits</td>
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<td>Hexavalent Chromium (ppb)**</td>
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<td>n/a</td>
<td>&lt;1</td>
<td>ND</td>
<td>ND</td>
<td>ND – 1.32</td>
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<td>Emission of Natural Deposits, Industrial Discharges</td>
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<td>Magnesium (ppm)</td>
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<td>9.5</td>
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<td>ND – 19</td>
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<td>Drinking Water Treatment Chemical for Aesthetic Quality</td>
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<td>n-Nitrosodimethylamine (ppb)</td>
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<td>NR</td>
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<td>Drinking Water Treatment Chemical</td>
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<td>7.7</td>
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<td>4.7</td>
<td>4.6</td>
<td>0.6 – 4.7</td>
<td>n/a</td>
<td>Runoff or Leaching from Natural Deposits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium (ppm)</td>
<td>Not Regulated</td>
<td>n/a</td>
<td>61</td>
<td>71</td>
<td>96</td>
<td>30 – 121</td>
<td>n/a</td>
<td>Runoff or Leaching from Natural Deposits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Organic Carbon (ppm)</td>
<td>TT</td>
<td>n/a</td>
<td>0.68</td>
<td>3.1</td>
<td>2.4</td>
<td>ND – 6.7</td>
<td>TT</td>
<td>Various Natural and Man-Made sources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanadium (ppb)</td>
<td>NL = 50</td>
<td>n/a</td>
<td>2.7</td>
<td>ND</td>
<td>ND</td>
<td>ND – 7.7</td>
<td>n/a</td>
<td>Runoff or Leaching from Natural Deposits</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Your water has been tested for more than 200 more chemicals than are listed above, including metals (such as mercury), pesticides, volatile organic and Pesticides compounds. Chemicals not detected in any water sources are not included in the table.**

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

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

**Total manganese is regulated with an secondary MCL of 50 ppb to maintain aesthetic quality (color). Total manganese was also included as part of the unregulated chemicals requiring monitoring.
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)
Violation of monitoring reporting requirement

Important information about your drinking water


这份报告中有重要的信息，讲述了您所社区的水的品质。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。

본 보고서는 귀하의 식수에 관한 중요한 정보를 가지고 있습니다. 번역, 또는 이 보고서 이해하는 사람에게 물어보십시오。

Violation | Explanation | Duration | Actions taken to correct violation | Health effects
---|---|---|---|---
Total Coliform Rule Monitoring Violation | Seven weekly samples were not collected for Total Coliform Rule Monitoring | 9/27/20-10/3/20 | Implementation of two sample collection tracking systems | Unknown

Notice of violation

Due to a failure to monitor as required for drinking water standards during the past year, Irvine Ranch Water District (IRWD) was in violation of the regulations. Even though this failure was not an emergency, as our customer, you have the right to know what happened, what IRWD did to correct the situation, and that your water is safe to drink.

Q: What happened? Where did the violation occur?
A: IRWD is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether our drinking water meets health standards. During the once-per-week sampling for the week of September 27 through October 3, 2020, IRWD did not collect from seven sites for Total Coliform Rule sampling. Therefore, we do not have data indicating the absence of total coliform bacteria in drinking water within two of our distribution zones, Zone 2 and Zone 4, during that week in 2020.

Map of IRWD Service Area – Zone 2 and Zone 4
Map of Zone 2 – detail
Map of Zone 4 – detail

Q: What is Total Coliform Rule sampling?
A: Total coliform bacteria are a large group of bacteria that are naturally present in the environment. This group of bacteria is unlikely to cause illness. However, in drinking water, they are used as an indicator to show if potentially harmful waterborne pathogens may be present, or whether a potential pathway exists through which contamination may enter the drinking water distribution system.

IRWD tests for the presence of total coliform bacteria on over 100 samples that are collected from the District’s drinking water distribution system weekly. These samples are collected from IRWD’s drinking water storage tanks, source wells, treatment plants, turnouts and distribution sample points. Among these, there are 60 drinking water distribution sample sites that are Total Coliform Rule regulatory sample sites.

The District further evaluates for the presence of E. coli (Escherichia coli) in any weekly Bacteriological sample that tests positive for Total Coliform indicator bacteria. E. coli is a fecal coliform bacterium found in the intestines of humans and warm-blooded animals. The presence of E. coli bacteria in a sample can indicate the possibility of fecal contamination which is suggestive of the possible presence of pathogens.

Q: What did IRWD do to correct the situation?
A: The table below lists: the contaminant(s) we did not properly test for during the week of September 27, 2020; how many samples IRWD is required to take and how often; how many samples we took; when samples should have been taken; and the date on which follow-up samples were taken.

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Required sampling frequency</th>
<th>When samples were previously taken</th>
<th>When samples should have been taken</th>
<th>When follow-up samples were taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Coliforms</td>
<td>60 samples required weekly</td>
<td>60 samples collected during the week of 9/20/20 – 9/26/20</td>
<td>53 samples collected during the week of 9/27/20 – 10/3/20 (seven samples missed)</td>
<td>60 samples collected during the week of 10/4/20 – 10/10/20</td>
</tr>
</tbody>
</table>

During the week that the seven Total Coliform Rule samples were not collected, 53 Coliform Rule samples were taken throughout the District’s drinking water system. None of these samples indicated the presence of Total Coliform Bacteria in the District’s drinking water.

Additionally, Total Coliform data collected by the District’s Laboratory Information Management System (LIMS) over the previous 10 years shows that the water being provided to the two affected distribution zones, Zone 2 and Zone 4, has been consistently safe for customer consumption on a week-to-week basis.

Weekly Total Coliform Rule sampling by IRWD resumed in its entirety immediately following the fifth week of September 2020, and the Total Coliform Bacteria results continue to consistently show that the water continues to be safe. As a corrective action, the District has implemented two redundant sample tracking systems to assure that all weekly Total Coliform samples are collected in a timely manner.

Q: What do you need to do?
A: There is nothing you need to do.

Notification requirements for schools, residential rental property, and business property within Zone 2 or Zone 4:

- **Schools** must notify school employees, students and parents (if the students are minors).
- **Residential rental property managers** (including nursing homes and care facilities) must notify tenants.
- **Business property owners, managers or operators** must notify employees of businesses on the property.

This notification was provided by Irvine Ranch Water District, State Water System ID# CA3010092. Distributed on July 1, 2021.
**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 Water Quality Department, 3512 Michelson Drive, Irvine.**

**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 Santiago service area of IRWD was completed in March 2006. This groundwater is considered most vulnerable to contamination from crop irrigation and fertilizers.

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 sources in the Orange Park Acres service area of IRWD was completed in March 2003. This groundwater is considered most vulnerable to contamination from sewers collection systems, automobile (gas stations), historic gas stations and underground storage tanks (confirmed leaking tanks).

**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 RightScape.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.