



IRVINE RANCH WATER DISTRICT: AN OVERVIEW

FEBRUARY 2020

The Irvine Ranch Water District provides high-quality drinking water, reliable sewage collection and treatment, drought-proof recycled water, and environmentally sound urban runoff treatment for approximately 422,000 residents in central Orange County, California.

IRWD encompasses 181 square miles extending from the Pacific Coast to the foothills and serving Irvine and portions of Costa Mesa, Lake Forest, Newport Beach, Orange, Tustin and unincorporated areas of Orange County.

Established in 1961 as an independent special district organized under the California Water District Code, IRWD is governed by a five-member, publicly elected Board of Directors responsible for the District's policies and decision-making. Day-to-day operations are supervised by the General Manager and District staff.

WATER SUPPLY PORTFOLIO

IRWD has diverse water sources, which ensure reliable supplies during times of drought, regulatory constraints and emergencies, and help to keep rates low. IRWD water comes from local groundwater, recycled water, imported water, and local surface water.

Groundwater

Half of the IRWD water supply comes from local groundwater wells in the Orange County Groundwater Basin. IRWD began developing local water supplies in 1979 to reduce dependence on costly imported water, and now produces drinking water from 26 groundwater wells throughout the service area.

Imported water

Imported water from the Metropolitan Water District of Southern California makes up less than one-fifth of the District's supply. Drinking water imported

to IRWD comes from the Sacramento-San Joaquin Delta in Northern California through the State Water Project and from the Colorado River through the Colorado River Aqueduct.

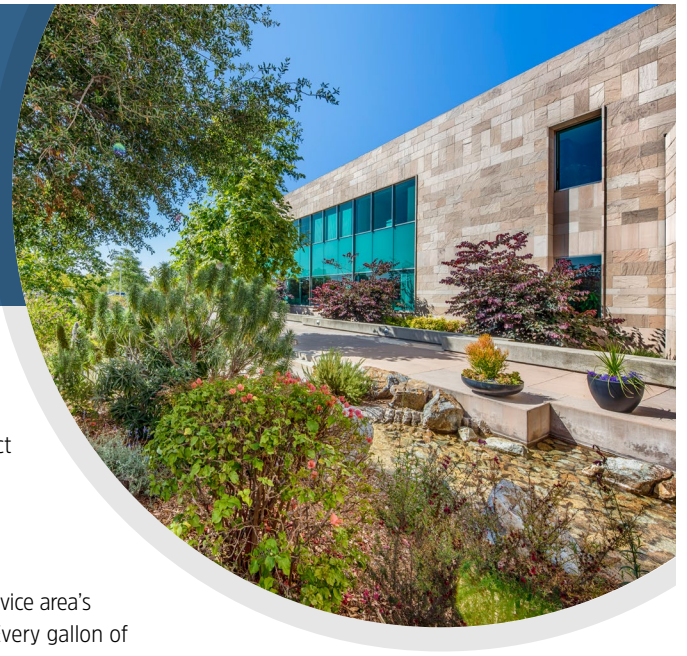
Recycled water

IRWD meets about a quarter of the service area's water demands with recycled water. Every gallon of recycled water used saves a gallon of drinking water. Using recycled water extends drinking water supplies and reduces reliance on costly imported water, helping to improve water supply reliability.

IRWD's customers use recycled water for:

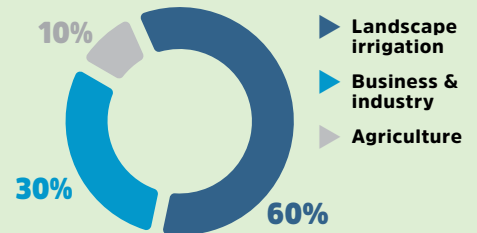
- Irrigating landscape in parks, golf courses, school yards, homeowners association common areas, and some large residential lots
- Watering medians, parkways and along freeways
- Irrigating agricultural sites
- Fighting wildfires
- Industrial applications such as cooling towers, composting and concrete
- Flushing toilets and urinals in more than 110 dual-plumbed buildings, including commercial sites and some schools

On average, IRWD delivers about 28 million gallons of recycled water per day to 6,000 customers through 561 miles of pipelines.

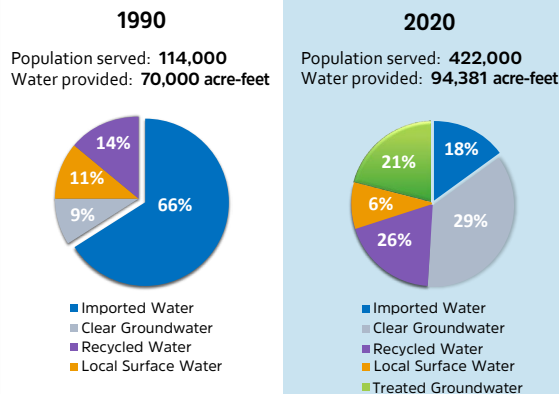


The dual-distribution system, which keeps recycled water completely separate from drinking water, uses easily recognized purple pipe to identify recycled water infrastructure. IRWD pioneered the use of purple piping, which has become the international symbol for recycled water.

Recycled water: How do we use it?



IRWD WATER SOURCE PORTFOLIO



Water banking

Water banking – storing water in wet years for use during dry years and emergencies – is an important tool for augmenting imported water supplies and ensuring reliability.

By capturing water when it is available and storing it in groundwater basins to supplement supplies in dry years, the IRWD water banking program safeguards customers from imported water supply shortages. The banking program is designed to provide enough water to meet approximately 15% of IRWD customers' needs during critically dry years.

WATER RESOURCE STEWARDSHIP

WATER QUALITY

IRWD is committed to providing customers with safe, high-quality and reliable drinking water. The District's Water Quality staff continuously monitors water supplies, conducting more than 100,000 laboratory tests each year from water taken from more than 100 sample points throughout the service area. IRWD's state-of-the-art Water Quality Laboratory is one of the best-equipped facilities in Southern California.

The IRWD annual Water Quality Report provides customers with water analysis test results and an explanation of how to interpret the information. To

request a copy, call the District at **949-453-5300**, email info@IRWD.com, or visit IRWD.com/water-report.



IRWD's state-of-the-art Water Quality Laboratory conducts more than 100,000 laboratory tests each year from water collected at more than 100 sample points throughout the District.

IRWD FACTS AND FIGURES

Size of District: 181 square miles
Population served: 422,000
Service connections: 116,000

NUMBER OF CUSTOMERS

Drinking water

Residential: 102,700
Landscape irrigation: 7,800
Commercial: 5,400
Industrial: 840
Agricultural: 60

Recycled water

Landscape irrigation: 5,186
Residential irrigation: 662
Commercial: 102
Agricultural: 35
Construction: 31
Industrial: 4

WATER PORTFOLIO

Clear groundwater: 27,382 AF*
Recycled water: 24,913 AF
Treated groundwater: 19,523 AF
Imported water: 17,398 AF
Local surface water: 5,165 AF

Total water provided: 94,381 AF

*AF = acre-feet. One acre-foot of water equals 326,000 gallons and covers one acre of land, one foot deep.

WATER USE EFFICIENCY

Using water efficiently helps extend water supplies in wet and dry years alike. IRWD offers cutting-edge conservation and water use efficiency programs so customers have the tools needed to use water wisely. IRWD also employs a budget-based billing structure that rewards customers for conserving water.

RightScope, IRWD's outdoor conservation outreach campaign, is a resource for promoting water efficiency. Saving water not only preserves our precious resources, but also helps our customers save money.

Budget-based water rate structure

IRWD uses a budget-based conservation rate structure, which offers property-specific water budgets and tiered pricing to provide customers with economic incentives for efficient water use. Customized and equitable water budgets are established for each customer account based on a variety of factors including: type of home or business, irrigated landscape area, daily weather data and number of residents in a home. Customers who use water within their

budget purchase water in the lower tiers and enjoy low water bills. Customers who use water in excess of their budget receive a strong pricing signal indicating inefficient or wasteful use.

IRWD's monthly water rates have two components: variable water usage charges



RESIDENTIAL RATES

(effective July 1, 2019)

Tier	Rate per CCF*	Percent of budget
1: Low volume	\$ 1.47	0 - 40%
2: Base rate	\$ 2.00	41 - 100%
3: Inefficient	\$ 4.86	101 - 140%
4: Wasteful	\$13.63	141+%

*CCF = 100 cubic feet, or approximately 748 gallons

Budget-based rate structure



FEBRUARY 2020

IRWD FACILITIES

OFFICES

- IRWD Sand Canyon Administrative Offices
- IRWD Operations Center

RECYCLED WATER PLANTS & STORAGE

- Michelson Water Recycling Plant
- Los Alisos Water Recycling Plant
- Proposed Syphon Reservoir Improvement Project – would increase storage capacity from current 578 acre-feet to 5,000 acre-feet

Four seasonal recycled water storage reservoirs: Rattlesnake, Sand Canyon, San Joaquin, and Syphon

DRINKING WATER FACILITIES

- Baker Water Treatment Plant
- Irvine Desalter Project – treats drinking water in the Irvine subbasin
- Deep Aquifer Treatment System – removes color from local groundwater
- Wells 21 & 22 Rehabilitation, Pipelines and Water Treatment Plant – recovers and treats local impaired groundwater for drinking use

Thirty-six drinking water reservoirs

Dyer Road Well Field – local groundwater

NON-DRINKING WATER SOURCES

El Toro Groundwater Remediation Program – provides 4,000 acre-feet of water for irrigation annually

Irvine Lake – untreated water reservoir

NATURAL TREATMENT SYSTEM (NTS)

IRWD operates more than 35 NTS wetlands sites, including the San Joaquin Marsh & Wildlife Sanctuary

IRWD San Joaquin Marsh Campus – including the Duck Club, Audubon House, Learning Center, Visitor's Center, Sea & Sage House and Caretaker's Residence



Microfiltration tubes inside the Baker Water Treatment Plant, a 28.1-million-gallon-per-day drinking water treatment facility in Lake Forest. The plant was a joint regional project by five south Orange County water districts and went online in early 2017. The Baker Water Treatment Plant is managed and owned by IRWD.

set to recapture the variable cost of imported water and local groundwater, and fixed water and sewer service charges set to recover the fixed costs of maintaining the water distribution system.

This allows IRWD to provide exceptional service while also encouraging efficient water use and providing for rate stability. The monthly water charges for a typical residential customer are the lowest in Orange County.

FINANCIAL OPERATIONS

IRWD has built secure financial standing through careful fiscal stewardship. The District uses a long-range planning approach that is similar to a family that regularly puts money aside over time to pay for the eventual cost of the children's college education.

By anticipating infrastructure needs, IRWD avoids having to dramatically increase customer rates to pay for the repair and replacement of facilities such as pipes, pumps and reservoirs as they age.

To ensure equity among customers, IRWD separates the costs of building water and sewer infrastructure from the cost of daily operations and maintenance.

Capital infrastructure is financed directly or through general obligation bonds, the costs for which are paid through a combination of property taxes and developer connection fees. Daily operation and maintenance costs are funded primarily by customers' monthly water and sewer bills.

IRWD rates and charges are reviewed and set annually by the IRWD Board of Directors.



Sand Canyon Reservoir is one of four IRWD seasonal recycled water storage reservoirs.

RESOURCES



COMMITMENT TO SUSTAINABLE RESOURCES

IRWD is committed to protecting our environment through effective water and resource management. The District has adopted a variety of innovative resource management programs including water use efficiency, recycled water, energy sustainability, urban runoff reduction and treatment, and public education.

San Joaquin Marsh

The IRWD San Joaquin Marsh encompasses more than 300 acres of coastal freshwater wetlands. In addition to providing a valuable open-space oasis and wildlife habitat for the community, the working wetlands help naturally clean urban runoff from San Diego Creek, removing up to 70% of the nutrients carried in the water, and helping to protect the environmentally sensitive Upper Newport Bay.

The marsh is open to the public seven days a week, year-round. Visitors can walk along 12 miles of trails and watch the more than 200 migratory bird species that visit the marsh. Through partnerships with the local Sea & Sage Chapter of the National Audubon Society and Discovery Cube, a variety of tours and educational programs are offered throughout the year.

Urban runoff and natural treatment programs

Modeled after the San Joaquin Marsh, the IRWD Natural Treatment System is a series of smaller, man-made wetlands throughout the IRWD service area. These wetlands naturally remove contaminants from urban runoff in a cost-effective and environmentally sound manner. Both the Natural Treatment System and the San Joaquin Marsh help IRWD protect the environment through the treatment of dry-weather runoff.

The Natural Treatment System reflects regional collaboration. IRWD partnered with service area cities, the County of Orange, and local developers to build this innovative, cost-effective, environmental project that is recognized throughout the state as a model for responsible urban runoff management.

Energy sustainability

The IRWD recycled water and conservation programs have significant energy-efficient benefits. Water imported to Southern California requires large amounts of power to move across the state. By reducing imported water use, IRWD has cut greenhouse gas emissions.

IRWD also boasts a growing solar energy program designed to further reduce the District's carbon footprint.

CUSTOMER RESOURCES

Water use efficiency

Home water survey program:

Customers who are experiencing problems with high water use can request a water use survey. A trained conservation specialist will visit your home, check for leaks, and make recommendations for water savings.

Landscape workshops

IRWD customers are invited to learn about creating a water-efficient landscape from experts at IRWD landscape workshops, held continuously throughout the year. Register at RightScapeNow.com/events.

Outreach and education

Resident tours

Anyone who lives or works in the IRWD service area can learn more about the district by attending a resident tour hosted by an IRWD board member and staff. Tours are held several times a year and publicized on IRWD.com.

Community programs

IRWD provides a variety of community programs including landscape and conservation workshops, online webinars, and videos on many topics. Visit the District's website, RightScapeNow.com, for more information.

Water awareness education

Water education programs are available to students and teachers from kindergarten through college in any public, private, or home school within the IRWD service area. We are proud to partner with Discovery Cube to provide high-quality education programming that meets California Science Content standards and reinforces the need to engage in water use efficiency as a lifelong behavior.

Speakers bureau

IRWD experts are available to community organizations, associations and institutions in our service area through the IRWD speakers bureau. Call **949-453-5500** or email info@IRWD.com to schedule a presentation.



IRWD CONTACT INFO

Phone: 949-453-5300

Email: info@IRWD.com

Websites: IRWD.com
RightScapeNow.com
RightScapeResources.com

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Irvine, CA 92618



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youtube.com/IrvineRanchWD

The Sand Canyon Administrative Office, at 15600 Sand Canyon Ave., Irvine, is open from 8 a.m. to 5 p.m. Monday through Friday.

The IRWD Operations Center, at 3512 Michelson Drive, Irvine, is open from 7:30 a.m. to 4 p.m. Monday through Thursday.