



IRWD water facts

November 2011 update

The Irvine Ranch Water District, established in 1961, provides high-quality drinking water, reliable wastewater collection and treatment, ground-breaking recycled water programs, and environmentally-sound urban runoff treatment to more than 330,000 residents in Central Orange County, California.

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

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 a diverse water supply that ensures reliable supplies during times of drought, regulatory constraints and emergencies, which helps to keep rates low. The IRWD water supply comes from local groundwater, imported water, recycled water, and the District's water banking program.

Groundwater

Approximately 48 percent of the IRWD water supply comes from local groundwater wells in the Orange County Groundwater Basin including the Irvine and Lake Forest sub-basins. IRWD began developing local water supplies in 1979 to alleviate the region's dependence on costly imported water. IRWD now produces drinking water from 25 groundwater wells.

Imported Water

Imported water from the Metropolitan Water District of Southern California makes up approximately 20 percent of the District's supply. Drinking water imported to IRWD comes from the Sacramento-San Joaquin Delta in Northern



The IRWD San Joaquin Marsh in Irvine, California, a place of quiet enjoyment, is open to the public year-round, seven days a week.

California through the State Water Project and the Colorado River through the Colorado River Aqueduct.

Recycled Water

IRWD meets approximately 25 percent of the service area's water demands with recycled water. Using recycled water extends drinking water supplies, reduces the need for additional potable water facilities, reduces the amount of treated wastewater discharged into the ocean, reduces reliance on costly imported water supplies, and improves water supply reliability.

IRWD provides recycled water for agricultural and landscape irrigation at facilities such as parks, school grounds, golf courses, freeway landscaping and common areas managed by homeowner associations. Recycled water is also used for front and backyard irrigation in large residential lots, for

industrial processes such as concrete mixing, and for toilet flushing and cooling towers in 48 dual-plumbed office buildings.

Once treated, recycled water is delivered throughout the IRWD service area through more than 460 miles of pipeline. This dual distribution system, which keeps recycled water completely separate from drinking water, uses purple pipe to easily identify recycled water infrastructure. In fact, IRWD pioneered the use of purple piping which has become the international symbol for recycled water.

Recycled water is a key component of both the IRWD water use efficiency and water supply reliability programs as every gallon of recycled water used results in a gallon of drinking water that can be saved for potable uses.

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 low-cost 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 percent of IRWD customers' needs during critically dry years.

IRWD seeks opportunities to increase the use of recycled water to the greatest extent possible. Every gallon of recycled water used saves a gallon of drinking water.

Water Resource Stewardship

Water Quality

IRWD is committed to providing customers with safe, high quality and reliable drinking water. Scientists in the District's Water Quality Laboratory continuously monitor water supplies, conducting more than a quarter of a million laboratory tests each year from water taken from more than 70 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.



IRWD Facts and Figures

- Size of District: 181 square miles (115,531 acres)
- Population served: 331,500
- Employees: 300

Customer Connections (2010)

Drinking Water

- Residential: 84,295
- Commercial: 4,952
- Industrial: 861
- Public Authority: 281
- Construction & Temporary: 93
- Fire Protection: 4,550
- Landscape Irrigation: 1,814
- Agricultural: 11

Recycled Water

- Commercial: 50
- Industrial: 3
- Landscape Irrigation: 4,437
- Agricultural: 30

Total Connections: 101,377

Amount of Water Delivered

(FY 2009-2010)

- Treated (potable): 51,358 AF*
- Untreated (non-potable): 7,461 AF
- Recycled: 22,863 AF
- Total: 81,682 AF

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

The IRWD Annual Water Quality Report provides customers with water analysis test results and an explanation of how to interpret the information. Contact the District at (949) 453-5300 to request a copy or visit the "Your Water" section of our website, www.irwd.com.

Always Water Smart

Efficiently using water helps extend water supplies in wet and dry years alike. IRWD offers cutting-edge conservation and water use efficiency programs so customers, as well as partners, vendors, suppliers, and employees, have the tools needed to use water wisely. IRWD also employs a unique allocation-based billing structure that rewards customers for conserving water.

Always Water Smart, IRWD's conservation-focused outreach campaign, is a resource for all things water efficient. By visiting www.AlwaysWaterSmart.com, customers can find tips, tools, rebates, information on events, webinars and workshops.

Saving water not only preserves our precious resources, but also helps our customers save money. Save water, save money—Be Always Water Smart.

Allocation-Based Water Rate Structure

IRWD uses an allocation-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 allocations are established for each customer account based on a variety of factors including: irrigated area, daily weather data and number of residents, or business type. Water is then sold to customers under an increasing tier rate structure based upon their allocation. Customers who use water within their allocation purchase water in the lower tiers and are rewarded with very low water bills. Customers who use water in excess of their allocation purchase water in steeply ascending upper tiers and receive a strong pricing signal for excessive or wasteful use.

IRWD's monthly water rates have two components: a commodity rate set to recapture the variable cost of imported water and local groundwater; and a service charge 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 among the lowest in Orange County.



High-rate circular clarifier at the Michelson Water Recycling Plant. Current expansion of this plant, to be completed in 2012, will increase capacity from approximately 18 to 28 million gallons per day of recycled water.

IRWD uses an Allocation-Based Rate Structure that Rewards Water-Use Efficiency and Discourages Waste



A view of portions of the IRWD service area, as seen from the top of the Shady Canyon Reservoir in Irvine.

The IRWD rate structure provides the foundation for IRWD's water conservation programs by promoting the efficient use of water year in and year out—not just during drought years. Between its implementation in 1991 and 2008, IRWD achieved a 43 percent reduction in landscape water use and a 20 percent drop in residential use. Further, the revenue collected from higher tier water use is reinvested to promote long-term improvements in water use efficiency and support IRWD urban runoff programs.

Financial Operations

IRWD has built a secure financial standing through careful fiscal planning. Effective planning for the future keeps customer rates stable and ensures the District's ability to pay for new and replacement infrastructure without significant increases to customers' bills.

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 connection fees. Daily operation and maintenance costs are funded primarily by customers' monthly water and sewer bills.

Tier	Rate (per ccf*)	Percent of Allocation
Low Volume	\$0.91	0 - 40%
Base Rate	\$1.22	41 - 100%
Inefficient	\$2.50	101 - 150%
Excessive	\$4.32	151 - 200%
Wasteful	\$9.48	200+%

**ccf = 100 cubic feet, or approximately 748 gallons*

IRWD rates and charges are reviewed and set annually by the IRWD Board of Directors. This process includes preparation of a draft budget that takes into account projected revenues and expenses for the upcoming fiscal year, public notices, and an open public hearing.



IRWD Facilities

- IRWD Sand Canyon Administrative Offices
- IRWD Operations Center
- Michelson Water Recycling Plant
- Los Alisos Water Recycling Plant
- IRWD San Joaquin Marsh and Campus including the Duck Club, Audubon House, Learning Center, Visitor's Center, Sea & Sage House and Caretaker's Residence
- The Irvine Desalter Project - treats drinking and non-potable water in the Irvine subbasin
- Deep Aquifer Treatment System - removes color from local groundwater
- Irvine Lake - untreated water reservoir
- Dyer Road Wellfield - local groundwater
- San Joaquin Recycled Water Reservoir
- Twelve additional recycled water reservoirs with a combined 656.9 MG* storage capacity
- Thirty-four drinking water reservoirs with a combined 144.16 MG storage capacity

* MG = Million Gallons

IRWD Water Supply Portfolio

- Recycled Water - 21%
- Imported Water - 27%
- Clear Groundwater - 30%
- Treated Groundwater - 18%
- *Other: Water from Irvine Lake and Manning Treatment Plant - 4%

Resources

Commitment to Sustainable Resources

IRWD is committed to protecting the environment through effective water and resource management. The District has adopted a variety of innovative resource management programs including recycled water, water use efficiency, 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 percent of the nitrogen 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. The Marsh Campus houses the IRWD Learning Center, the IRWD Visitor's Center, the Duck Club, the Audubon House, the Sea and Sage House and a Caretaker's Residence. The Visitor's Center, open from 8 a.m. to 4 p.m. daily, offers guests a self-guided tour about the history of IRWD as well as the District's water use efficiency, urban runoff and sustainability efforts. Through partnerships with the local Sea and Sage Chapter of the National Audubon Society and the Discovery Science center, a variety of tours and educational programs are offered year-round.

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 located 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 natural dry-weather runoff.

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

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 by approximately 20,000 tons annually.

IRWD also boasts a growing solar energy program designed to further reduce the District's carbon footprint. Nearly 700 solar panels on the roof of the IRWD Sand Canyon administrative offices provide more than 20 percent of the total energy needed for the building. 800 solar

panels installed on the roof of the IRWD Zone 3 drinking water reservoir produce more than half of the energy needed to run the facility. The District continues to study the feasibility of installing solar energy systems at other IRWD sites.

Customer Resources

IRWD offers a wide array of resources to customers. More information about these resources and much more can be found at www.irwd.com.

Accessing Your Account

Pay Bills Online: Customers can use eBill to conveniently receive and pay bills online or have their bill automatically deducted from their checking account.

Customer Variance: Customers with larger than average families, large landscaped areas, special medical needs, or other property specific needs such as horses or pools may qualify for an allocation variance. Additionally, one-time courtesy adjustments are available in other special circumstances. Variance request forms can be found on www.irwd.com or picked up at our offices.

Always Water Smart

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.

Always Water Smart Tours: Anyone who lives or works in the IRWD service area can learn more about the District by attending an Always Water Smart Tour hosted by an IRWD Board Member and staff. Tours are held annually in the spring.

Outreach and Education

Community Programs: IRWD provides a variety of community programs including Landscape and Conservation Workshops, on-line webinars and videos on many topics, and Always Water Smart Tours.

Water Awareness Education: Student 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. IRWD is proud to partner with Discovery Science Center to provide high

quality education programming that meets California Science Content standards and reinforces the need to engage in ongoing water use efficiency.

Speakers Bureau: IRWD experts are available to present to community organizations, associations and institutions in our service area through the IRWD Speakers' Bureau.



IRWD Contact Information

Phone: (949) 453-5300

E-mail: info@irwd.com

Websites: www.irwd.com and www.AlwaysWaterSmart.com

Address: Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618



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Visit IRWD's YouTube Channel:
[IrvineRanchWD](https://www.youtube.com/IrvineRanchWD)

IRWD Office Hours

The Sand Canyon Administrative Office, located at 15600 Sand Canyon Boulevard, Irvine, CA 92618, is open Monday thru Thursday, 7:30 a.m. to 5 p.m. and on Friday 8 a.m. to 5 p.m.

The Engineering Counter, at the Sand Canyon Administrative Office, is open Monday thru Thursday from 7:30 a.m. to 4:30 p.m. and on alternate Fridays 8 a.m. to 4 p.m.

The IRWD Operations Center, located at 3512 Michelson Drive, Irvine, CA 92612, is open Monday thru Thursday from 7:30 a.m. to 4 p.m. and on alternate Fridays from 8 a.m. to 3 p.m.