

With the advent of community master planning more than half a century ago, the Irvine Company became an industry leader in the capture and reuse of water on a major scale. These beneficial efforts include a landscape palette that features drought-tolerant vegetation and other plants and trees irrigated entirely by recycled water. The Jeffrey Open Space Trail (above) is a great example of how recycled water keeps Irvine vibrant and green.

Master Planning Saves Water

Irvine Leads the Nation in Efficient Use and Reuse of Water

While no one knows when California's current drought will end, Irvine residents can be certain of one thing: The city's water outlook is much stronger than most communities in Southern California.

This fact is a direct result of long-range community master planning. For decades, the Irvine Company has worked closely with city and local water officials on innovative water conservation infrastructure and public-education programs that have positioned Irvine as a national leader in the efficient use – and notably, reuse – of water.

These efforts provide the City of Irvine with the rare assurance that it will have sufficient water supplies to continue its important long-term community and economic growth. Efforts include the establishment of

the Michelson Water Recycling Plant (see page 2), and early adoption of drip irrigation and the use of recycled water for agriculture and urban uses (see page 3), to name just a few.

Irvine's master-planned approach to water use is the most advanced in the nation.

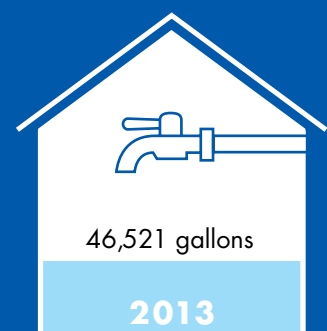
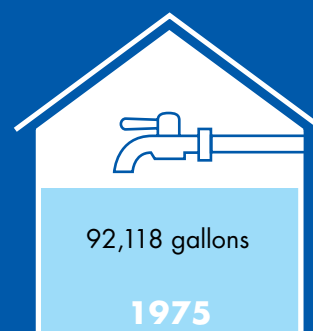
A safe, strong and reliable supply of water – supported by an aggressive commitment to recycling it by all means available – is essential to the city's future. The old adage, "every drop counts," rings truer today than ever before. This special issue of *Planning Ahead* explores the many ways Irvine is taking this truism to heart.

RECYCLING AND CONSERVING WATER ADD UP TO SUCCESS



91%

of the water used by the Irvine Company for landscaping in Irvine is recycled water. Retail centers, office properties and apartments all use recycled water.



Each year, extensive use of the latest indoor plumbing makes new homes 50 percent more water-efficient than their older counterparts.

DECADES OF MASTER PLANNING RESULTS

Long before the use of recycled water was standard practice in Southern California, the Irvine Ranch Water District adopted as its unofficial motto, “Water shouldn’t be used just once.”

And in Irvine, it rarely is. To be sure, recycled water – along with creative ways of transporting it – has been a critical part of Irvine’s environmental and conservation efforts since 1967, when IRWD, with support from the Irvine Company, opened the Michelson Water Recycling Plant.

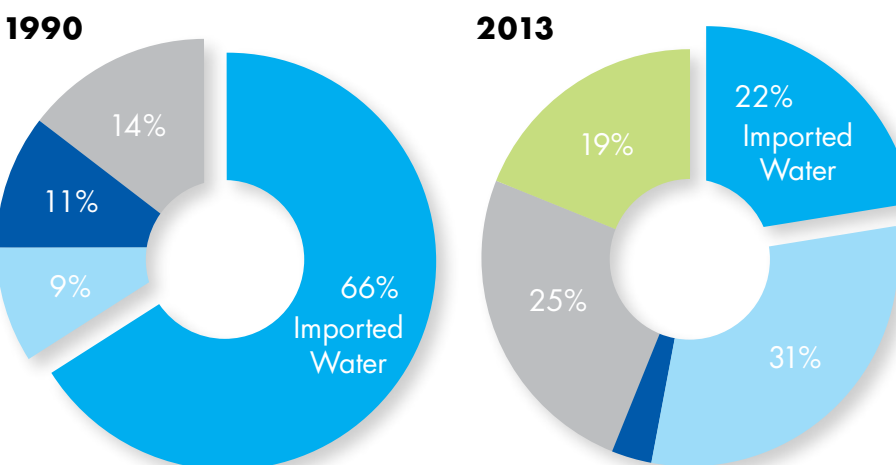
A NEW MODEL FOR WATER RECYCLING

The plant’s debut marked California’s most aggressive commitment up to that time to treat and use recycled water. The backbone of the plant – regarded to this day as a national model for water conservation and recycling – is an elaborate dual pipe system that winds its way throughout the City of Irvine and other parts of The Irvine Ranch.



The Michelson Water Recycling Plant each day delivers up to 28 million gallons of recycled water throughout the city. The nationally acclaimed facility makes it possible for Irvine’s parks, roadway medians, greenbelts and other public spaces to thrive year-round, without using potable (drinking) water supplies.

Drop by Precious Drop, IRWD Succeeds in Reducing Local Reliance on Imported Water



A focus on receiving water from diverse sources is a key reason Irvine’s water supply is in better shape than many other communities. As the charts demonstrate, for more than two decades IRWD has significantly reduced its dependence on imported potable water, while at the same time increasing the amount of recycled water available for its customers.



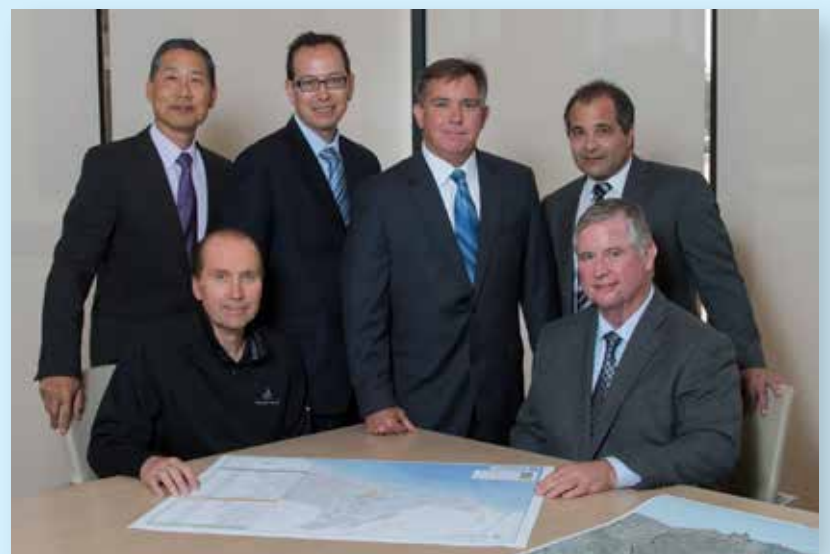
An important water-conserving method used extensively throughout Irvine is drip irrigation, which delivers precise amounts of water, preventing wasteful evaporation and over-saturation.

One system of pipes delivers potable (drinking) water to homes and businesses, while the other system – comprising hundreds of miles of pipeline – transports treated recycled water that is used to irrigate large landscaped areas such as parks, golf courses, community greenbelts and roadway medians.

In fact, since the 1980s every Irvine Company retail, office and apartment community – in addition to the previously mentioned areas – in the City of Irvine has used recycled water for its landscaping.

More than 20% of all water supplied by IRWD is recycled water. The plant recycles up to 28 million gallons of water daily. Unlike potable water, there are no drought-related restrictions on the amount of recycled water that may be used.

In Irvine, the use of recycled water is made even more impactful by the company’s commitment to leading-edge irrigation systems that feature “smart” irrigation controllers, drip and low-flow water-delivery equipment, and satellite-based weather data controls, among other technologies.



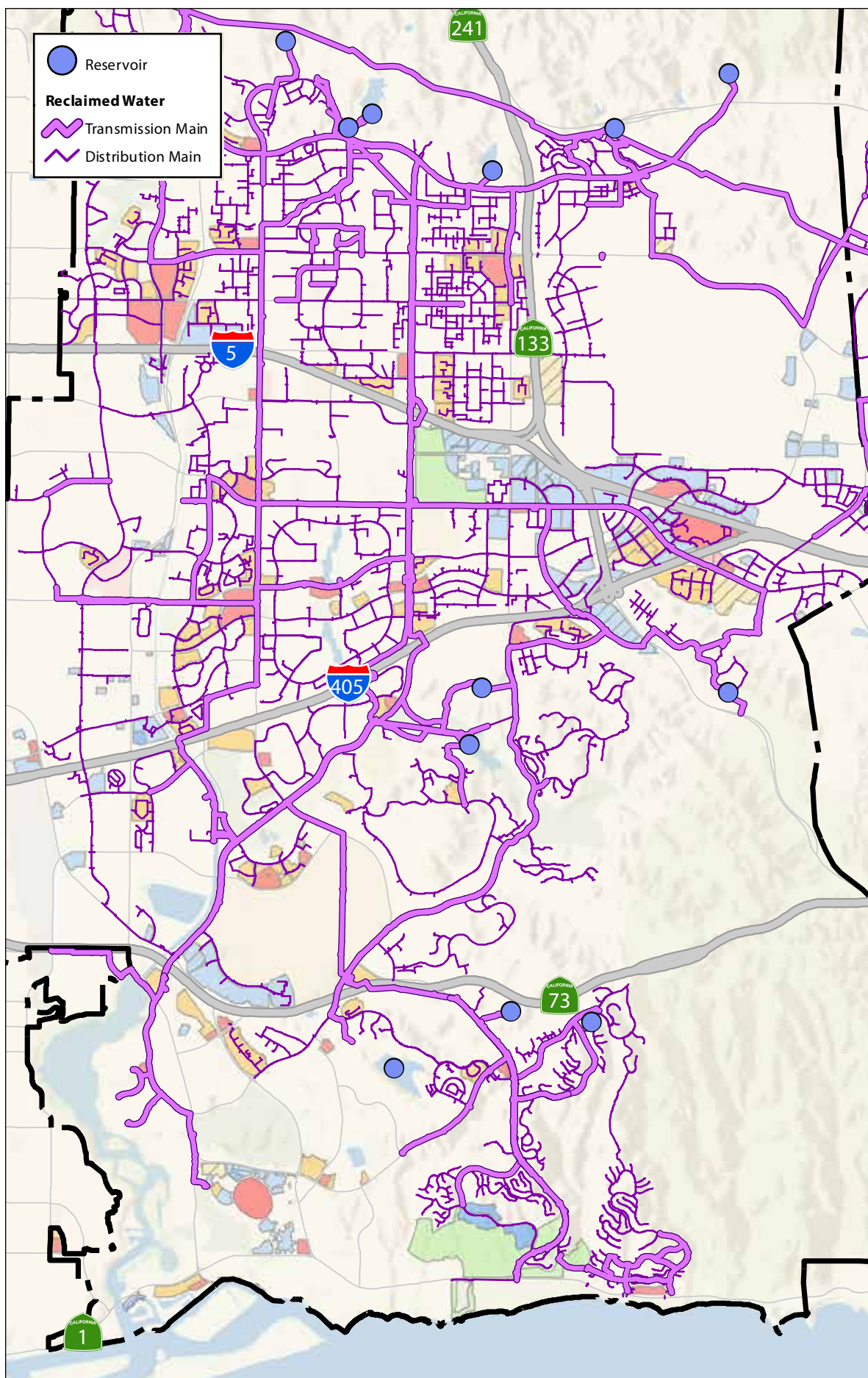
CONSERVATION THROUGH LEADERSHIP AND VIGILANCE

Underscoring its commitment to water conservation across its portfolio in Irvine and elsewhere, the Irvine Company years ago created a team of approximately 50 water experts from throughout the company. Team leaders (pictured) meet weekly to review current water usage, identify innovations and efficiencies and to discuss new and upcoming statewide drought regulations and policies.

To learn more about the Irvine Company’s comprehensive efforts to conserve and protect local water supplies, visit goodplanning.org

IN INNOVATIVE WATER SOLUTIONS

Purple Pipes: Backbone for Irvine's Recycled Water Success



The purple lines on this map illustrate the extensive network of recycled-water pipes and other infrastructure throughout the City of Irvine. A section of the pipes is shown below.



- 🔵 Every day, the Irvine Ranch Water District delivers up to 28 million gallons of recycled water throughout Irvine
- 🔵 The water flows through a complex network of purple pipes (indicating recycled water) more than 460 miles long
- 🔵 Recycled water keeps Irvine parks, street medians, golf courses, school yards, agricultural crops and trails green and beautiful
- 🔵 To put the 28 million gallons of recycled water in perspective: It's enough water to fill approximately 42 Olympic-size swimming pools every day
- 🔵 And it's enough to meet the water needs of approximately 250 four-person households for an entire year



AVOCADOS FLOURISH IN SPITE OF DROUGHT, THANKS TO GOOD PLANNING

Nearly 50 years ago, the Irvine Company pioneered the use of water-conserving drip irrigation for orchard and row crop operations on The Irvine Ranch. By delivering precise amounts of water, the technology prevents evaporation and runoff, in turn saving huge amounts of water.

Today, approximately 1,100 acres – primarily avocado orchards in north Irvine – remain in agricultural production. Served by an extensive drip-irrigation system, these bountiful trees and crops are irrigated with non-potable water.

Thanks to good planning, even in years of drought The Irvine Ranch remains one of the nation's leading growers of avocados.

CONFIDENT WE WILL MEET THE CHALLENGE



Paul Cook
General Manager, IRWD

Paul Cook, General Manager of the Irvine Ranch Water District, answers frequently asked questions about the drought and what it means for Irvine residents and businesses.

Q: How did IRWD prepare for this kind of drought?

A: Developing and operating a reliable water supply means being prepared for changing conditions, including droughts.

One of the most important things IRWD did to ensure reliable local water supplies, even during periods of low rainfall, was build the Michelson Water Recycling Plant in 1967. The plant's water recycling capacity established Irvine as an early national leader in water-conservation efforts.

Q: Are rebates available to remove grass?

A: Yes, as well as several other rebate programs. IRWD works closely and proactively with residents and businesses on ways to use our water resources wisely and efficiently. We offer a broad array of useful programs and services to our customers that are aimed at making their homes and businesses more water-efficient. With the state's recent mandate to further reduce potable water use throughout our communities, it is important for our customers to take advantage of the valuable water conservation programs that we offer. Currently, there are several such rebate programs, including those covering turf removal, weather-based irrigation controllers, high-efficiency toilets and clothes washers, and others. More information is available on our website, <http://www.irwd.com/save-water-money/rebates>.

Q: Do we have enough water for the future?

A: The short answer is yes, but while Irvine's water supply is reliable, IRWD and our customers are also under the recent state mandate to reduce consumption of potable water. There are many ways to achieve this, and I encourage readers to visit our website, www.irwd.com, to learn about the many steps they can take.

Q: How can residents learn more?

A: IRWD already offers many useful programs and services to its customers for minimizing their outdoor water use, with additional resources becoming available all the time. Customers should visit the "RightScope" page (<http://www.irwd.com/save-water-money/rightscope>) on our website to find out more information about the many ways in which they can conserve water in their outdoor landscapes.



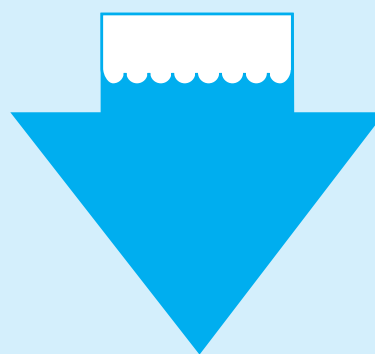
'WATER COOLER' FACTS

91%



That's how much of the water used by the Irvine Company for landscaping at its properties in Irvine is recycled. By using recycled water at its retail centers, apartment communities and office properties, the company each year saves hundreds of millions of gallons in fresh water. What's more, the company is committed to the efficient use of recycled water, and so uses high-tech equipment – such as weather-based satellite systems and "smart" irrigation controllers – to deliver precise amounts of recycled water to landscaping.

25%



That's the impressive reduction in per-person water consumption achieved by Irvine Ranch Water District and its customers since 1991. IRWD – one of the most efficiently managed water districts in California – and its customers have achieved this impressive reduction through a combination of factors that include aggressive water recycling, community outreach and education, and a commitment to the latest water-saving technologies.

16%

That's how much IRWD and its customers have been mandated by the state to reduce fresh water consumption. That percentage is significantly less than the state average of 25%. It's lower than most communities because IRWD, the Irvine Company and other local water customers have already made great strides over the years in conserving fresh water while expanding Irvine's recycled water supply. And while lower than most, the success to date at reducing consumption makes meeting the new mandates a challenge.

East OC Water District	36%
San Juan Capistrano	28%
California Average	25%
Moulton Niguel Water District	20%
IRWD	16%

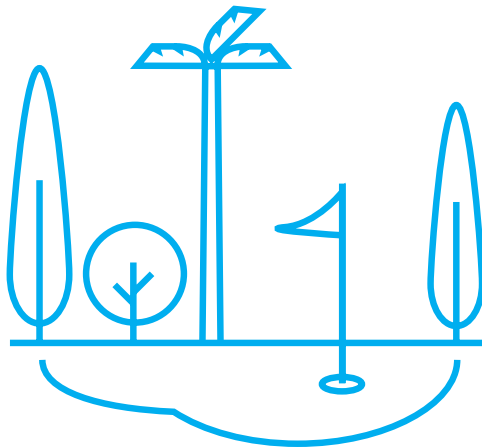
TO CONSERVE, IRVINE COMPANY DRAWS FROM DEEP WELL OF SOLUTIONS

The Irvine Company is determined to help the Irvine Ranch Water District meet its state mandate to reduce potable (drinking) water use by 16 percent. In communities statewide, the average mandated reduction is considerably higher – 25 percent. The mandate for Irvine is not nearly as steep due to conservation efforts undertaken over the years by the Irvine Company and IRWD. A sampling of these successful efforts is below. These water-saving solutions will continue to serve as the foundation for additional mandated reductions moving forward.



113 million gallons

saved annually at Irvine Company retail centers through the use of recycled water, high-tech irrigation equipment, plumbing fixtures, and continuous monitoring of water usage



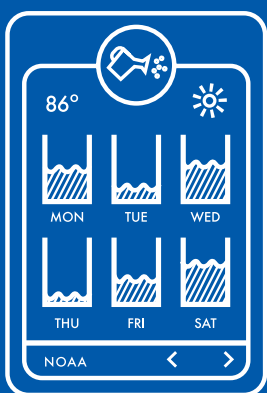
100 million gallons

saved annually at Oak Creek Golf Club® in Irvine each year as a result of an aggressive commitment to using recycled water



7 million gallons

saved annually by Irvine Company office properties by using recycled water in toilets and urinals at high-rise buildings dual-plumbed for potable and recycled water



122 million gallons

saved annually by converting outdoor landscaping to high-tech smart controllers and other irrigation technologies at Irvine Company office properties



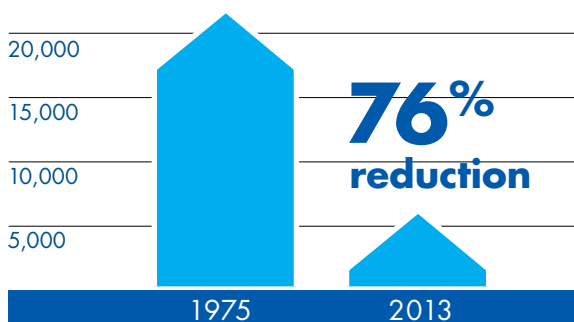
36 million gallons

saved annually at Irvine Company apartment communities by converting outdoor landscaping to micro spray sprinklers, and drip irrigation technologies

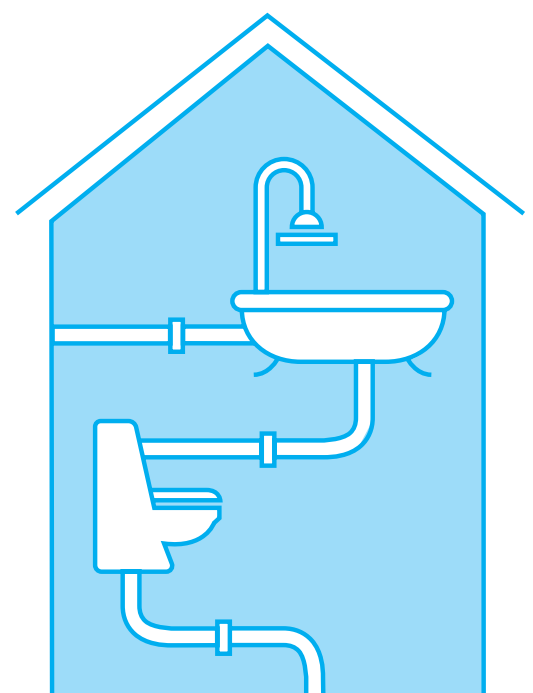
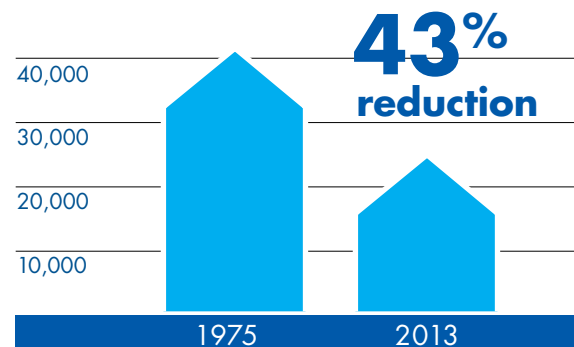
New Homes Need Just Half the Water

Technological advances in indoor plumbing fixtures have made new homes fully 50% more water-efficient than their older counterparts.

Toilets (Water usage in gallons)



Showers (Water usage in gallons)



Source: Building Industry Association

“Droughts are not new to California; we’ve been through this experience many times before, and we’ll go through it again at some point even after this current drought ends. The Irvine Company has been extremely responsible all along, and we’ll continue to do our part to conserve water. We make the investment.”

– **CLINT COLLINS**, Water Conservation Expert, Irvine Company Office Properties

HOW MANY DROUGHT-TOLERANT PLANTS CAN YOU SPOT AS YOU STROLL ALONG IRVINE'S BEAUTIFUL JEFFREY OPEN SPACE TRAIL?

If you've explored the city's 3½-mile-long Jeffrey Open Space Trail (pictured on page 1), you probably noticed its variety of beautiful plants, grasses and flowers. Designed, planted and funded by the Irvine Company, the trail's landscape comprises mostly drought-tolerant vegetation. And importantly, the entire trail is irrigated with recycled water. The Irvine Ranch Water District provides a comprehensive list of drought-tolerant vegetation you can plant at home. Learn more at RightScapeNow.com. In the meantime, hit the trail and see how many drought-tolerant varieties you can find on your own. Below are just a few of the many you'll see on your journey.



Mexican sage



Rosemary



A variety of Aloe

HOW YOU CAN HELP CALIFORNIA SAVE WATER DURING THE DROUGHT

With California now in a historic drought, we must use our high-quality water supplies as efficiently as possible. Because 60 to 65 percent of household water is used outdoors, we are asking customers to focus on saving water outside. Here are three important things that IRWD customers can do right now to help save water:



1. Remove Water-Thirsty Turf: Say good-bye to water-thirsty turf and hello to drought tolerant landscaping. Visit irwd.com/RightScape for ideas and rebates.



2. Reduce Outdoor Watering by 50%: Use the percent key on your timer or adjust the number of days and duration.



3. Fix Water Leaks: Check for leaks outside and inside your home. Maintaining the right equipment in your irrigation system ensures efficient landscape watering. Consider installing drip irrigation and replacing pop-up spray head nozzles with water efficient nozzles.

The IRWD RightScape™ program offers many helpful resources, such as rebates and a free planting guide. 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 heads. Rebates are available at irwd.com/rebates.



Run only full dishwasher and clothes washer loads.



Take up to five-minute showers.