

PROTECTING GROUNDWATER IN A DROUGHT



Drought in California - low level in Lake Isabella, Kern County

MESSAGE FROM THE PRESIDENT



Board President,
John D. S. Allen
Division 3



Board Secretary,
Willard H. Murray, Jr.
Division 1



Board Treasurer,
Robert Katherman
Division 2



Board Vice President,
Sergio Calderon
Division 4



Boardmember,
Vera Robles DeWitt
Division 5

PRESIDENT'S MESSAGE

Dear Friend,

As President of the Board of Directors, I am proud to share this informative newsletter from the Water Replenishment District (WRD). With about 95% of the Western United States experiencing drought, historic fires impacting the Pacific Northwest, and flooding in other parts of the world, it is clear that our climate and environment have been drastically changed. I'm afraid that drought conditions are our new normal. WRD understands that the key to addressing these droughts is protecting our current water supply and making every drop count. This is why WRD is recognizing October as Drought Awareness Month. The District has made great strides in ensuring that our water supply is sustainable and resilient for generations to come. Still, we must all do our part to conserve our precious water resources.

Our region has two main sources of drinking water: water extracted from groundwater basins and water imported from the Bay Delta and Colorado River. Since 1959, WRD has managed the West Coast Basin and Central Basin, which hold billions of gallons of fresh water. The groundwater basins are home to aquifers that are literally right under your feet. Cities, utility companies and water providers use wells to pump water from these aquifers and deliver them to your tap.

WRD's service area encompasses 43 cities and 420 square miles in southern Los Angeles County. Over 4 million residents who reside in this region consume about 250,000 acre-feet (82 billion gallons) of groundwater every year. This accounts for nearly half of the region's water supply. The other half is imported from hundreds of miles away using a series of aqueducts, reservoirs, and canals.

Before WRD's existence, unregulated water pumping caused some drinking water wells to go dry. Over-pumping also caused seawater to drift into groundwater basins, creating brackish water. Brackish water is salty groundwater that is too salty to drink. To address this, WRD imported water to repair depleted aquifers. In fact, 100% of WRD's water supply was imported during the agency's infancy.



WRD BOARD OF DIRECTORS APPOINTS
NEW GENERAL MANAGER



**STEPHAN
TUCKER**
WRD GENERAL
MANAGER

The Board of Directors appointed Stephan Tucker as the new General Manager of the Water Replenishment District. With his expertise in managing large-scale water infrastructure projects, Mr. Tucker will help lead the District's efforts to build a drought-resilient water supply in the region.

Mr. Tucker is a successful program management director and mechanical engineer with more than 35 years of experience managing significant programs throughout his career.

In response to his appointment Mr. Tucker shared, "I'd like to thank the Board for entrusting me with this awesome opportunity to run an agency with such a critical role in the management of groundwater in southern Los Angeles County."

Mr. Tucker's experience will help guide WRD to new heights and lead the District to achieve new milestones in water reclamation and conservation.

Thanks to eco-conscious planning, WRD no longer imports water to replenish our basins. Our water supply for groundwater replenishment is 100% locally sustainable. Even during droughts, our local water supply is enough to maintain healthy groundwater levels.

WRD achieved this momentous feat through our Water Independence Now (WIN) program. Through WIN, WRD developed a suite of projects to maximize our supply of recycled water. Over 17 years, WRD completed major water infrastructure projects to protect our precious water resources:

- Expanding a facility in Torrance that treats brackish groundwater by removing salt. Now, up to five million gallons of water per day is treated in Torrance. Water providers can pump this water and deliver it to your taps.
- Construction of the Leo J. Vander Lans facility, which treats up to 8 million gallons of water per day. Water from this facility is injected along the coast to prevent seawater from drifting into the groundwater basins.
- Construction of the Albert Robles Center for Water Recycling and Environmental Learning. This facility purifies 14.8 million gallons of recycled water per day. Treated water is then diverted into the San Gabriel Spreading Grounds where it percolates into the groundwater basins.

These projects helped WRD offset the need for imported water to refill our groundwater basins. WRD is building off the success of WIN by raising the stakes and setting a higher goal – completing the WIN 4 All framework.

The goal of WIN 4 All is to build regional drought resiliency and maximize the amount of water stored in groundwater basins. The real key to a sustainable drought-proof water future lies under our feet. Though we can't see them, groundwater aquifers are immense natural reserves – currently with empty storage space that can hold nearly 150 billion gallons of water. Through WIN 4 All, WRD plans to work with regional partners to increase the region's portfolio of water recycling projects to build a reserve of water for droughts. Water would be stored in underground aquifers to be extracted during dry years.

You can celebrate Drought Awareness Month by doing your part to conserve water. Throughout this newsletter, you will find drought tips, dates for our drought friendly Eco Gardener classes, opportunities for students to participate in our Annual Student Art Contest, and more! We look forward to serving you and working together to secure our water future today.

Sincerely,

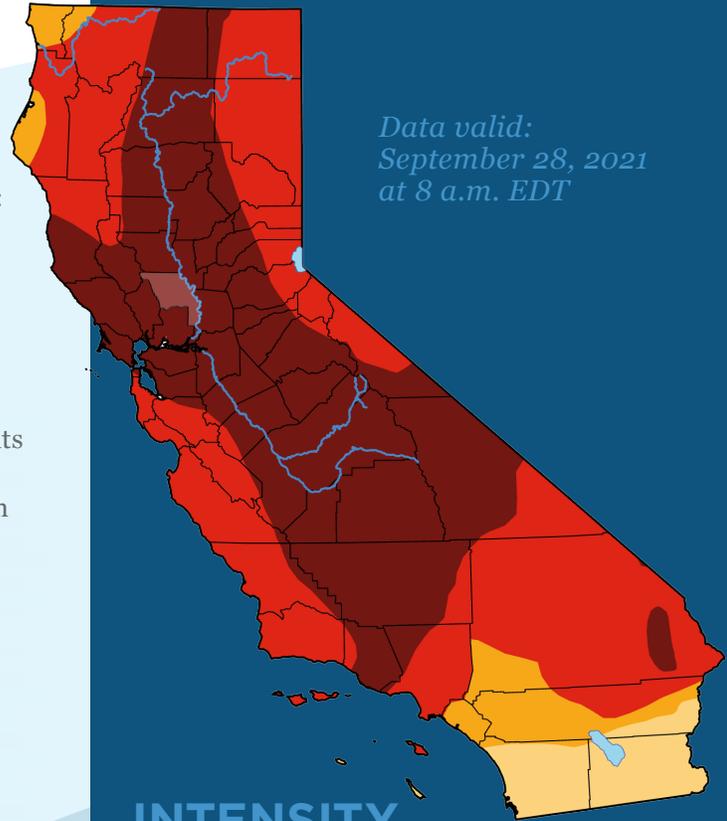
John D. S. Allen

President

Water Replenishment District

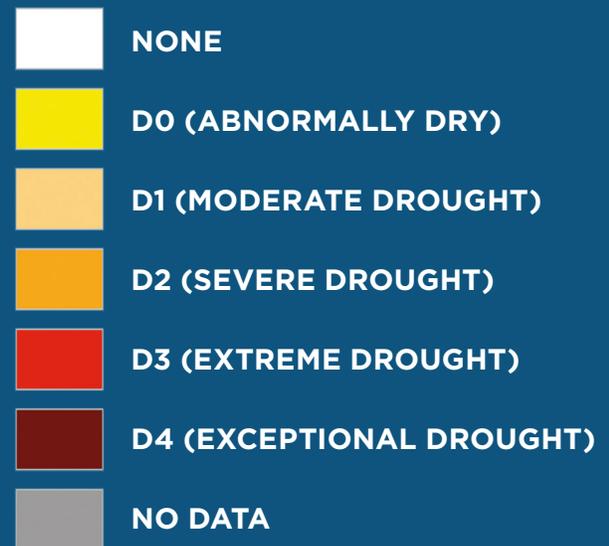
DROUGHT MAP

RELEASED: THURSDAY
SEPTEMBER 30, 2021



Data valid:
September 28, 2021
at 8 a.m. EDT

INTENSITY



The U.S. Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map courtesy of NDMC.

7th Annual

WRD STUDENT ART CONTEST

WRD NEEDS YOUR
CREATIVITY FOR OUR
2022 CALENDAR!

Visit:

www.wrd.org/StudentArtContest



TO WIN, YOUR ARTWORK MUST:

#1 Demonstrate the importance of groundwater and/or water conservation.

#2 Be submitted on 8 1/2" x 11" paper in horizontal orientation by Sunday, November 7, 2021, 11:59pm.

#3 Include parental/guardian consent.

WATER IS LIFE! The Water Replenishment District needs your creativity to spread the word on water in our 2022 student art calendar. Students in grades K-6 from the WRD service area are eligible to enter this year's contest.

TOPICS

Topic Options Include:

- #1 Groundwater: The Treasure Beneath Our Feet**
- #2 Water Nerds are Water Heroes**
- #3 There's Life in Every Drop!**

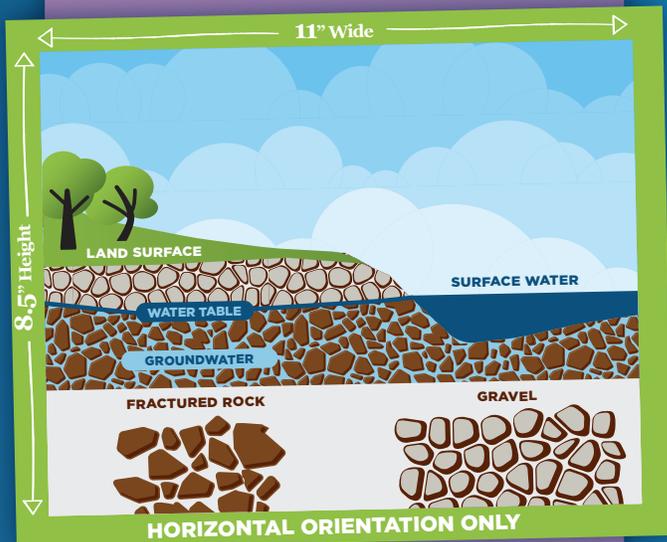
ARTWORK SUBMISSION

The deadline for kindergarten through sixth grade students to submit their artwork is **Sunday, November 7, 2021**. The selected finalists who submitted online will be asked to send their original artwork to WRD by December 2, 2021. Students may submit their completed artwork and Parental Approval Form (PAF):

- ▶ **Online at www.wrd.org/StudentArtContest (send picture of artwork)**
- ▶ **By mail to Jenn Swart at 4040 Paramount Blvd., Lakewood, CA 90712 (send original artwork & PAF)**

CONTEST RULES

- ▶ Contestants must reside in, or attend a school within, the boundaries of WRD's 43 city service area and must be in kindergarten through 6th grade.
- ▶ Don't get disqualified! Artwork must be original (no computer-made, or copyrighted material such as superhero characters), and submitted on white 8 1/2" x 11" poster board or paper in landscape (horizontal) orientation.
- ▶ Crayons, markers, ink, poster paint, chalk, water color, cut paper, or fabric may be used.
- ▶ For online submissions: keep your original work! Winners will need to send in their original work in order to claim their prize.
- ▶ One entry per student. All entries become property of WRD upon receipt.
- ▶ For more info contact Jenn Swart at jswart@wrld.org or 562-275-4265



WRD Water Nerd

WRD EDUCATES

The Water Replenishment District's Education Program features interactive student activities that present engaging lessons on the importance of groundwater, water treatment, and conservation. All workshops are held in a virtual format and are available to schools, scout troops, and other youth groups. Contact us at info@wrd.org for more information.

VIRTUAL TOURS OF THE ALBERT ROBLES CENTER FOR WATER RECYCLING AND ENVIRONMENTAL LEARNING

Students can take a live-hosted virtual field trip of ARC and experience a unique state-of-the-art water education center. Field trips are available to schools and youth organizations. To schedule a virtual tour contact Monica at msijder@wrd.org.



Photo of WRD's Albert Robles Learning Center (ARC). At the rainfall exhibit, visitors can learn about the "Fate of Rain" as it travels through the cities of Los Angeles and Pico Rivera.



ARC's Learning Center features 30 fully digital and bilingual exhibits. Visitors can learn about groundwater, recycled water, and water conservation through touch screen displays.

STORY TIME WITH A WATER NERD



One of WRD's very own "Water Nerds" teaching students about water.

Do you need someone to read to your class? We have Water Nerds that want to share their love for water related stories. Reading sessions will be conducted virtually. To schedule a reading session with WRD, visit www.wrd.org/TeacherLounge

WATER CONSERVATION BRACELET ACTIVITY



WRD's Water Conservation Bracelet Activity teaches students how to conserve water during their everyday activities. Request your free conservation bracelet kit and start your water saving journey today! Contact Monica Sijder at msijder@wrd.org

WATER CONSERVATION BRACELET INSTRUCTIONS

- #1** Gather the materials from your "Water Conservation Bracelet" kit.
- #2** Take the "Water Conservation Pledge". Grab the colored beads and put each bead through your pipe cleaner, as instructed.
- #3** Wear your "Water Conservation Bracelet" with pride.

 **I pledge to take shorter showers.** Take the **DARK BLUE** beads and put them through the pipe cleaner.

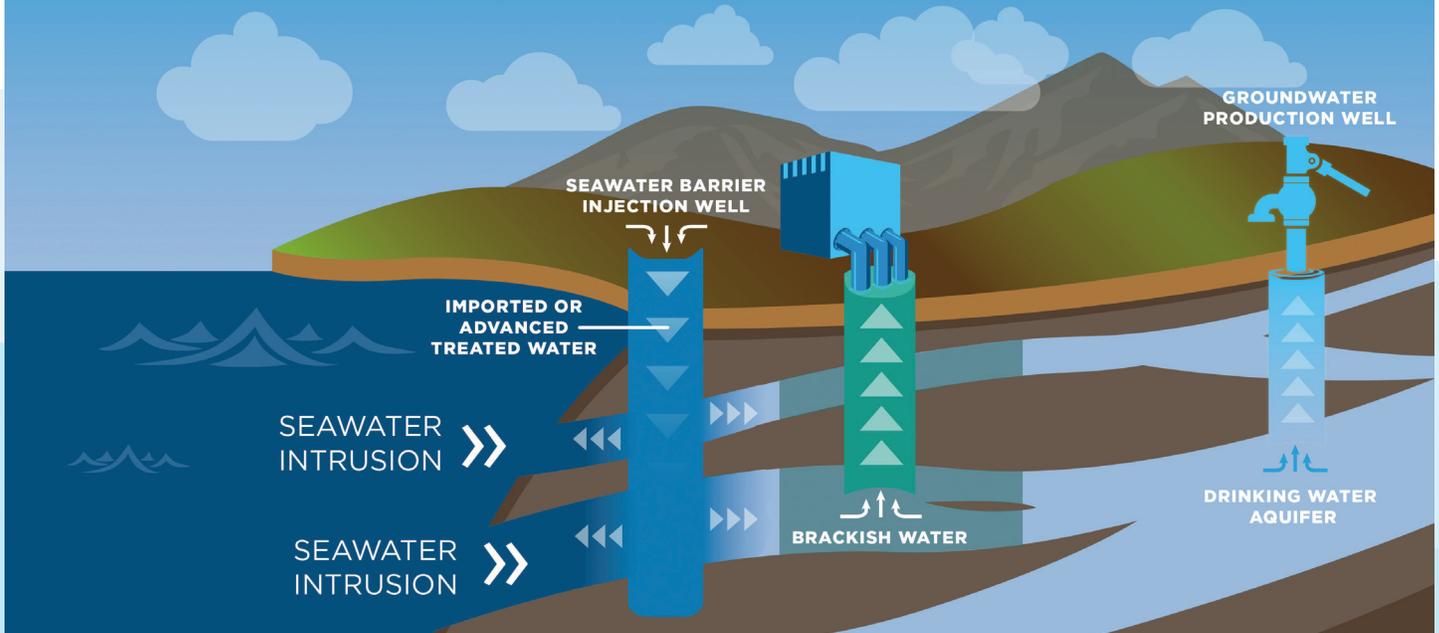
 **I pledge to turn off the water while brushing my teeth.** Take the **WHITE** beads and put them through the pipe cleaner.

 **I pledge to help fill the dishwasher.** Take the **LIGHT BLUE** beads and put them through the pipe cleaner.

 **I pledge to be a WATER SAVER!** Take the **GREEN** beads and put them through the pipe cleaner.

REGIONAL BRACKISH WATER RECLAMATION PROGRAM (RBWRP)

WHERE DOES BRACKISH GROUNDWATER COME FROM?

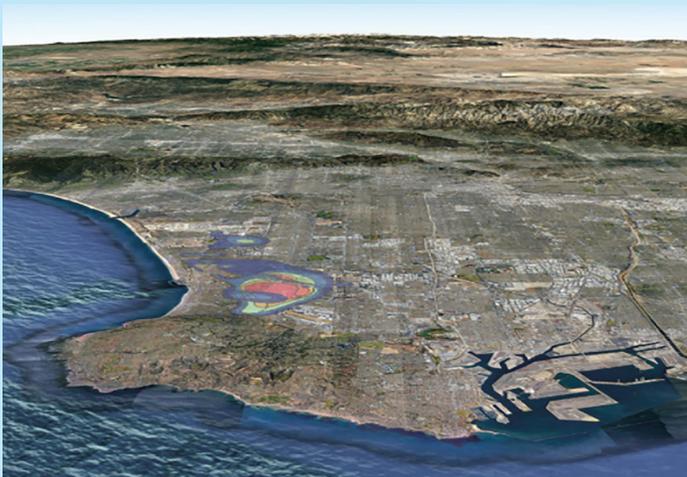


This diagram shows how WRD prevents seawater intrusion and how WRD plans to treat brackish water.

Due to over pumping of the basins decades ago, fresh groundwater was contaminated with seawater. Seawater intrusion is the process of seawater migrating into fresh groundwater aquifers. When seawater mixes with fresh water, it becomes too salty to drink! We call this brackish water. To prevent seawater intrusion that leads to brackish groundwater, WRD provides fresh water to the Los Angeles County Department of Public Works (LADPW). LADPW injects this water into the ground at high pressure levels to create an artificial barrier that prevents seawater intrusion.

While seawater intrusion has largely been stopped, the seawater barrier project trapped a body of brackish groundwater inland from the injection wells. WRD plans to extract the brackish groundwater and treat it so that it can be used as drinking water. After extracting and treating the brackish water, WRD can replenish the aquifer with new fresh water supplies which builds up reserves and provides local drought resiliency.

Thanks to WRD's Water Independence Now (WIN) Program, water used to replenish the Central and West Coast Basins is locally sustainable. Building upon the successes of WRD's WIN program, the District initiated the Water Independence Now for All (WIN 4 All) program to take advantage of available groundwater storage space, and increase the region's use of sustainable groundwater supplies.



Map of salty brackish water contamination in the West Coast Basin. There is enough brackish water to cover nearly 600,000 football fields with a foot of salty water! WRD plans to treat and clean this water so it can be used as drinking water.

WRD's Regional Brackish Water Reclamation Program (RBWRP) is the main component of WIN 4 All. The RBWRP will create a new drinking water supply in southern Los Angeles County by treating salty groundwater with state-of-the-art technology. Brackish water is groundwater that is less salty than seawater, but too salty to drink. Brackish water made its way into our groundwater basins when too much water was pumped in the early 1900s.

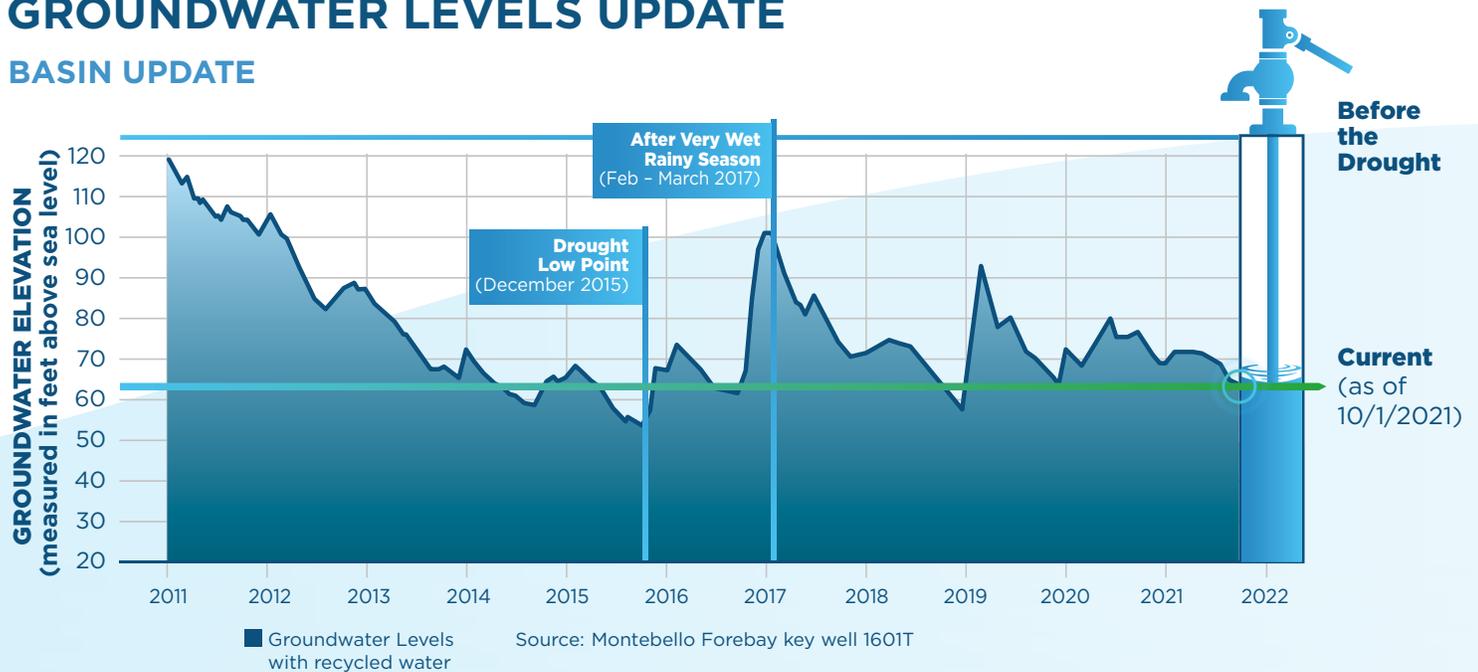
Through WRD's RBWRP, up to 18 million gallons of water per day will be treated and made available as a local source of drinking water. Removal of salty groundwater will create space for more groundwater storage. As part of WIN 4 All, WRD plans to store freshwater in groundwater aquifers for use in dry years.

PROGRAM BENEFITS:

- Will treat up to 18 million gallons of water per day
- Increases local sustainability & drought resiliency
- Protects groundwater quality for the future
- Helps alleviate drought impacts
- Assists local agencies in meeting long-term water supply needs

GROUNDWATER LEVELS UPDATE

BASIN UPDATE



The groundwater basins are healthy and have avoided the overdraft seen in previous droughts. This is thanks to WRD's Water Independence Now (WIN) program. WIN created a locally sustainable supply of water for groundwater replenishment. Even during droughts and dry years, WRD can rely on locally recycled water and stormwater capture to maintain healthy groundwater levels.

ECO GARDENER CLASSES



Make your beautiful garden the envy of your neighbors while also saving water. Join our FREE Eco Gardening classes to create a productive ecosystem in your backyard!

The Lillian Kawasaki Eco Gardener Program teaches homeowners about the benefits of planting a sustainable garden. Whether you attend one or all our classes, you are certain to walk away with knowledge about sustainable garden design concepts as well as plant and material selections for creating an attractive, water efficient garden.

The Eco Gardener program educates residents on four popular topics: sustainable landscape design, drought-tolerant plants, edible gardening, and irrigation basics.

wrd.org/EcoGardener



SIGN UP FOR AN ECO GARDENER CLASS!

TUES, OCT 26 | 6PM - 7PM | DROUGHT TOLERANT PLANTS

THURS, OCT 28 | 6PM - 7PM | IRRIGATION BASICS

TUES, NOV 16 | 6PM - 7PM | SUSTAINABLE LANDSCAPE DESIGN

THURS, NOV 18 | 6PM - 7PM | EDIBLE GARDENING

YOU CAN REGISTER FOR ONE OF OUR UPCOMING VIRTUAL CLASSES BY SCANNING THE QR CODE WITH YOUR MOBILE PHONE!

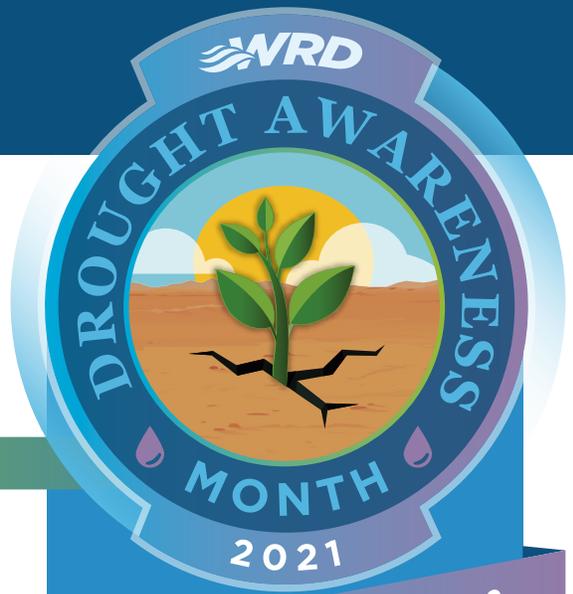


WWW.WRD.ORG/EcoGardener



DROUGHT AWARENESS MONTH

OCTOBER 2021



WHAT CAN I DO DURING THE DROUGHT?



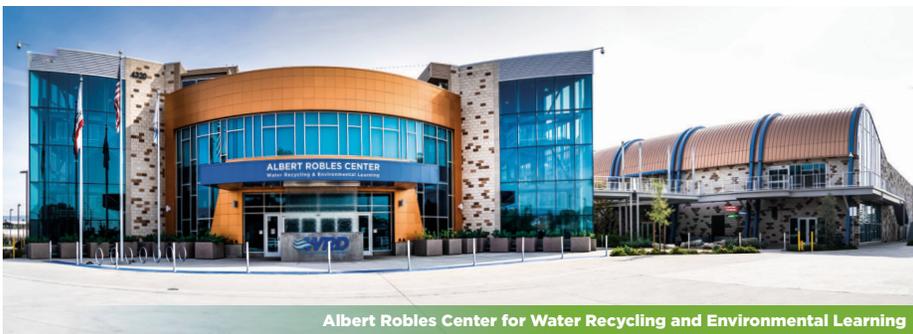
Drought Tolerant Garden

Did you know that California residents use about 85 gallons of water per day? That is a lot less than we used to, but with frequent drought conditions across the state, it's up to all of us to help conserve water.

When it comes to saving water, small changes at home can make a big difference. Take a look at our Drought Toolkit webpage to see how you can reduce your water use by 15%.



WHAT IS WRD DOING FOR THE DROUGHT?



Albert Robles Center for Water Recycling and Environmental Learning

The Water Replenishment District is doing its part, too. WRD is drought resilient and uses a sustainable, local supply of water for groundwater replenishment purposes. We are able to accomplish this through the use of recycled water and stormwater capture, which ease the strain on imported water supplies.

BOARD OF DIRECTORS

- | | | | | | |
|--|---|---|--|---|--|
|  Willard H. Murray, Jr.
Division 1 |  Robert Katherman
Division 2 |  John D. S. Allen
Division 3 |  Sergio Calderon
Division 4 |  Vera Robles DeWitt
Division 5 | Stephan Tucker
General Manager |
|--|---|---|--|---|--|

Quick Tips!



Check for leaks



Sweep driveways



Take 5-minute showers



Install faucet aerators



Repair broken sprinklers



Use drought-tolerant plants



Turn off the tap



Wash full loads