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NEWS

Climate change, increase in wildfires worry a majority of Nevadans, poll shows


Amy Alonzo

Reno Gazette Journal

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Climate change impacts the majority of Nevadans on a daily basis, according to a new Suffolk University/Reno Gazette Journal poll of Nevada voters.

The survey of 500 Nevadans shows that most people in the Silver State share concern about the impact of global warming, especially when it comes to the rise in wildfires in the West and resulting poor air quality.

And that sentiment is strongest in Washoe County, where the past two summers have been smoke-filled due to catastrophic wildfires in California. Almost all Washoe County residents polled have concerns about wildfires and resulting air pollution.

Here's what Nevadans from across the state have to say about climate change and wildfires, and how they are affected by them.

What the poll showed

More than half of those polled in Clark County and nearly two-thirds of those in Washoe County said climate change impacts them daily.

And for people of color who responded, the numbers were even higher: 69% of Black respondents agreed, as opposed to 47% of white respondents.

Age also plays into the level of concern expressed by respondents. Of those surveyed, 78% of those aged 18-24 agreed climate change is impacting their lives, while less than half of those aged 65-74 agreed.

The lone segment of Nevadans who did not report seeing a daily impact due to climate change was rural Nevada, where more than three-quarters said global warming doesn't impact them.

What likely voters have to say

Brant Wojack, a 50-year-old who recently moved to Las Vegas from Hawaii, said he thinks about the impacts of climate change nearly every day.

"My answer is always 'climate change is the most important thing,' he told the RGJ. "It should be the number one priority of everyone."

Full poll results: How Nevadans are feeling ahead of midterm elections

His concerns about climate change have impacted his home improvements. After Wojack and his wife settled into their Las Vegas home last year, they installed solar panels and elaborate air purifiers.

Living through last year's smoky weather and seeing record-low water levels at Lake Mead has been eye-opening.

"Seeing the skyline just white — it has an impact when you can see it with your own eyes," he said of last year's smoky skies. "There was no blue anywhere.

"I think about my grandkids and what are we leaving behind for them. It weighs heavily on my mind."

Tina Megason, a 62-year-old Republican from Carson City, said she doesn't "buy the climate change crap." But she agreed that wildfires — and the ensuing smoke and ash that comes from them — is a crippling problem for Nevada.

Recent California mega-fires, Megason said, "could be prevented with a little maintenance. People are making poor choices about managing the resources."

But she isn't immune to the fires' fallout.

As the Tamarack Fire burned last summer, she looked outside before leaving work in Gardnerville. It was around 5 p.m. and the sky was a mix of red and black.

"It was apocalyptic," she said. "It looked like Revelations."

She put on a mask just to walk to her car.

United by concerns of wildfires

Nevadans on both sides of major political party lines are united by concern about the recent rise in the size, frequency and severity of wildfires — 95% of Democrats and 72% of Republicans agreed it's a problem.

In central Nevada, 78% of those polled are concerned about the uptick in blazes, and almost all Washoe County residents polled are concerned — a whopping 92%.

For Cheryl Ward, a Latina Republican and 23-year Elko resident, the impacts of summer wildfires have been more noticeable than ever.

"We've had more and more severe fires as we have the increase in the temperatures each year and less precipitation," said Ward, who attributed the increased fire activity to climate change, "but a lot of people here in Elko don't realize that. They think it's just change that's happened throughout history."

Her family enjoys hiking and traveling, but they skipped visiting the California coast the past few summers to avoid the state's wildfires. Last year, they instead visited family on the East Coast, where Ward remembers smoke from the West settling over Manhattan.

"It wasn't as bad as Nevada," she said, "but having the smoke travel that far was very eye-opening."

A large divide on air quality

While wildfire concerns span party lines, concerns about air quality do not — 90% of Democrats are concerned, as opposed to only 48% of Republicans.

In Washoe County, 86% of respondents reported concerns about declining air quality, while 6% had no concern at all; in Clark County, 70% of respondents expressed concern, while 10 said it's not a problem for them.

Showing properties to prospective out-of-area clients, Taylor Baruh, a 28-year-old Reno realtor and non-partisan voter, said he worries how the pervasive summer smoke skews the view of the area. And by the end of each work day last summer, he had headaches from the smoke exposure.

Robert Nuckles, 60, of Carson City, said he believes poor air quality from wildfires played a role in the death of his mom three years ago; she suffered from chronic obstructive pulmonary disease.

“She was absolutely ripe for getting a fatal acute illness because of poor air quality,” Nuckles said. “It had everything to do with the poor air quality ... It was so nasty and unhealthful. They talk about going in casinos and it's bad, but outside, it was just as bad or worse.”

Amy Alonzo covers the outdoors, recreation and environment for Nevada and Lake Tahoe. Reach her at aalonzo@gannett.com. Here's how you can support ongoing coverage and local journalism.

RALPH FRANCO ([HTTPS://IWA-NETWORK.ORG/AUTHOR/RALPH/](https://iwa-network.org/author/ralph/)) APRIL 13, 2022

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Bringing reuse water to the mainstream

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Population growth, urbanization and persistent drought are straining water resources in various regions around the world, while pollution and contamination compound these challenges. As this situation intensifies, water technology companies like Xylem are working to advance the conversation on sustainable water supply strategies, including the use of recycled water – or reuse water – to tackle water shortages.

The reality is that water scarcity is an issue facing communities in every corner of the world, but solutions exist to address this challenge. Advanced treatment technologies have demonstrated that wastewater can be purified well beyond drinking water standards and reused safely for both potable and non-potable purposes.

Reusing water can also have numerous economic benefits, reused water is less expensive than generating water through other technologies such as desalination, which means savings for both public utilities and citizens.

Advanced treatment technologies play key role

Advanced technologies are a key part of the foundation to support the development of potable reuse projects. New developments in oxidation-enhanced, biologically active filtration and UV disinfection are helping utilities around the world achieve reuse water quality standards, while delivering optimal performance, reliable operations and substantial energy savings.

Xylem is engaged in initiatives to build support for water reuse throughout the world:

- In **California**, advanced treatment technologies are helping to combat water shortages due to drought. For example, the Santa Clara Valley Water District is using ultraviolet (UV) light to produce recycled water for use by commercial and industrial customers, and the city of Los Angeles is incorporating UV light and chlorine in a cutting-edge advanced oxidation process to augment dwindling groundwater supplies. Xylem's ozone and biologically active filtration processes are also being provided to produce high-quality water to supplement surface water supplies in San Diego.

- Using a multi-step disinfection process, Hampton Roads Sanitation District (HRSD) in

Virginia Beach, **Virginia**, implemented an innovative water treatment program called

SWIFT (Sustainable Water Initiative for Tomorrow). The program puts highly treated water through additional rounds of advanced water treatment to meet strict drinking water

quality standards. SWIFT water is then added to the Potomac Aquifer to help slow and potentially reverse the shrinking of land due to withdrawal, help restore the health of the Chesapeake Bay and give the region a sustainable source of groundwater.

- In **Saudi Arabia**, a sewage treatment plant was expanded to help meet the country's ambitious target for water reuse (<http://makingwaves.xylem.com/saudi-arabia-water-reuse/>). An integrated wastewater treatment system from Xylem helps generate over 52 million gallons per day of treated water per day.

Expanding water reuse practices and customizing water treatment options such as Ozone Oxidation, Biologically Active Filtration, UV Disinfection and Advanced Oxidation Processes are increasingly necessary for water utilities to develop resiliency against local water challenges that range from protecting the environment to securing long-term water supply independence.

Wide-scale adoption

As climate change and continued population growth put even more pressure on already overstretched water resources around the world, water reuse applications are becoming increasingly important.

Accelerating the adoption of reuse technologies requires a combination of smart water policies and public education. As support for public policies to promote the use of recycled water and advancing technologies become more affordable, the treatment and recycling of wastewater for potable and non-potable use will continue to grow. We must spread the word that water reuse is a viable, safe and sustainable solution that will be essential to help solving the world's future water needs. Ultimately it is the water's quality that counts, and not the water's history.

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Western Drought Lake Powell

FILE - An aerial view of Lake Powell on the Colorado River along the Arizona-Utah border on Sept. 11, 2019. A

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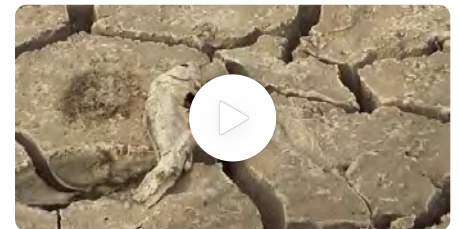


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across the U.S. West.

Officials had hoped snowmelt would buoy Lake Powell on the Arizona-Utah border to ensure its dam could continue to supply power. But snow is already melting, and hotter-than-normal temperatures and prolonged drought are further shrinking the lake.

The Interior Department has proposed holding back water in the lake to maintain Glen Canyon Dam's ability to generate electricity amid what it said were the driest conditions in the region in more than 1,200 years.

"The best available science indicates that the effects of climate change will continue to adversely impact the basin," Tanya Trujillo, the Interior's assistant secretary for water and science wrote to seven states in the basin Friday.

Trujillo asked for feedback on the proposal to keep 480,000 acre-feet of water in Lake Powell — enough water to serve about 1 million U.S. households. She stressed that operating the dam below 3,490 feet (1,063 meters), considered its minimum power pool, is uncharted territory and would lead to even more uncertainty for the western electrical grid and water deliveries to states and Mexico downstream.

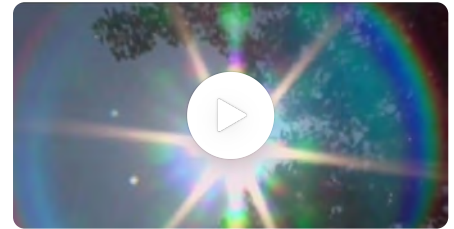
In the Colorado River basin, Glen Canyon Dam is the mammoth of power production, delivering electricity to about 5 million customers in seven states — Arizona, Colorado, Nebraska, Nevada, New Mexico, Utah and Wyoming. As Lake Powell falls, the dam becomes less efficient. At 3,490 feet, it can't produce power.

If levels were to fall below that mark, the 7,500 residents in the city at the lake, Page, and the adjacent Navajo community of LeChee would have no access to drinking water.



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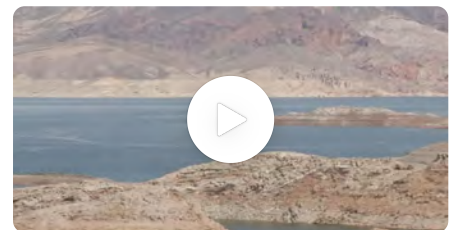
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Lake Powell, upstream from Glen Canyon Dam, in May 2021. (Ted Wood/The Water Desk)

Indy Environment: Federal agency weighs emergency action as Colorado River demand outpaces supply

Good morning, and welcome to the Indy Environment newsletter.

As always, we want to hear from readers. Let us know what you're seeing on the ground and how policies are affecting you. Email me with any tips at daniel@thenvindy.com

If you received this from a friend, [sign-up here](#) to receive it in your inbox.

It comes down to a math problem gone wrong.

The Colorado River is in a crisis. There is less water coming into the watershed, which supports about 40 million people across the Southwest, than there is water diverted away to farms, cities and businesses, from Colorado to Nevada to California. The river's two main storage reservoirs, Lake Mead and Lake Powell, are at historically low levels and operating in uncharted territory.

into the river and eventually reaches the reservoirs. A hotter and drier climate has contributed to a smaller river — less supply. And water managers are struggling to figure out how to move forward, as some cuts and reductions have been made, but not enough to match the water that's available.

At the same time, similar arid conditions are contributing to upward pressures on demand to use water. The states in the Lower Colorado River Basin (Arizona, California and Nevada) depend on Lake Mead, held back by the Hoover Dam. In Arizona and California, agricultural districts are meeting or exceeding their expected water use due, in part, to a very hot and dry start to the year. And water users, including the large municipal purveyor that supplies Southern California, might have to draw on their reserve account at Lake Mead, further lowering the reservoir levels.

"If the year that we're working within is hot and dry, there is more crop demand than if we have storms within the year," said Jeremy Dodds, who helps account for water use at the U.S. Bureau of Reclamation, the federal agency tasked with managing the delivery of Colorado River water.

In a [recent letter](#) first reported by [the Arizona Daily Star's Tony Davis](#), **federal water managers warned the states that they are considering an emergency action** that could accelerate the decline of Lake Mead. They are proposing to keep more water in Lake Powell, which is held back by Glen Canyon Dam upstream. Lake Powell and Lake Mead work together in tandem.

By keeping more water in Lake Powell, federal officials would release less water downstream to Lake Mead than expected. The move is intended to keep Lake Powell stable, providing a small window of relief to the system. But it comes with a cost: Such a move would lead to the further decline of Lake Mead, potentially making the risk of deeper, short-term water cuts more likely.

In addition to the action resulting in Lake Mead dropping roughly 7 feet lower, it could also have an impact on the hydroelectric power produced at Hoover Dam. In California alone, the cost of replacement power could be about \$5 million, said Bill Hasencamp, the manager of Colorado River Resources for the Metropolitan Water District, which serves most of Southern California.

But he suggested the sacrifice was worth stabilizing Lake Powell, noting that "the proposal, based on the modeling I've seen, would significantly reduce the risk in the next 18 months."

The Bureau of Reclamation had planned to release 7.48 million acre-feet from Lake Powell to Lake Mead (an acre-foot is the amount of water that can fill an acre to a depth of one foot). Under the proposed action, federal water managers contemplate leaving 480,000 acre-feet in Lake Powell.

The emergency reshuffling of water is meant to address a pressing issue amid the larger crisis. In the face of back-to-back years of less water, Lake Powell has dropped so low that it is close to reaching an elevation at which it was not intended to operate.

"The reality is that we're in situations we've never been in before," Colby Pellegrino, the deputy general manager of the Southern Nevada Water Authority, said during an interview this week. "We're going to have to take them cautiously, one step at a time. And in some cases, we're going to have to react very quickly to changing information," such as runoff forecasts.

As Lake Powell nears a critical threshold, or drops below it, the risks become serious. It would threaten the production of hydropower sent across the West and the supply of water to nearby communities, including the city of Page, Arizona, and the LeChee Chapter of the

[In the letter](#), Tanya Trujillo, a top official with the U.S. Department of Interior, which oversees the Bureau of Reclamation, asked the seven states in the Colorado River Basin to provide input on its proposed emergency action to keep more water in Lake Powell.

The bureau, Trujillo said, has not had to operate at such low levels since the reservoir was filled. The issues associated with operating Lake Powell below the critical threshold, Trujillo wrote, raise “profound concerns regarding prudent dam operations, facility reliability, public health and safety, and the ability to conduct emergency operations.”

State officials are expected to comment on the federal emergency plan by April 22.



The Lake Mead bathtub ring measures about 150 feet on Friday, June 25, 2021. (Jeff Scheid/The Nevada Independent)

Those comments are likely to focus, at least in part, on how the action would affect Lake Mead. Several water officials across the basin said that whatever action the federal government takes should not trigger a new series of cuts. Water reductions in Arizona, California and Nevada are based on the elevation of Lake Mead, in accordance with the [basin's Drought Contingency Plan](#).

"We want the outcome to be that there are no additional reductions because of holding back [the water]," said Tom Buschatzke, who leads the Arizona Department of Water Resources.

On that, there appears to be some agreement across the watershed, including within the Upper Colorado River Basin, which includes Colorado, New Mexico, Utah and Wyoming.

Chuck Cullom, executive director of the Upper Colorado River Commission, said “the discussion among the basin states currently, as we prepare a response back to the [Interior]

achieve that goal.

But the mechanics are still being worked out, and negotiators remain in active talks to reach a consensus decision. Although the Bureau of Reclamation's action could temporarily halt Lake Powell's drop for the next 18 months, it does not address the systemic issues at the center of the unfolding crisis.

"The threat that we face in this basin is a declining water supply, and depletions that are out of balance with the available resource," Cullom said. "That's why the storage has been depleted. And the expectation is there will be a need for reconciling that mismatch in the coming years."

Indeed, as part of the Interior Department's message, Trujillo urged states to "prioritize work to further conserve and reduce use of Colorado River water to stabilize the system's reservoirs."

But doing so can be challenging, costly and painful, especially as the effects of an aridifying climate play out in other ways. The Bureau of Reclamation is working with entities in two Lower Basin states, Arizona and California, that are [currently on track](#) to consume or divert more water than they were originally projected to use. Most of these water users are agricultural districts.

Dodds, who manages the bureau's water accounting and verification group in the Lower Basin, said that forecasted overuse, this early in the season, is not uncommon, but it may be slightly higher because of abnormally dry weather across the Southwest in the first few months of 2022 and changes in commodity prices influencing agricultural production.

Reclamation, he said, is closely monitoring the situation to avoid overuse, or what water managers describe as "overruns." Because Lake Mead is in its first-ever [official shortage](#), the operating rules governing the Colorado River require water officials to ensure there are no overruns.

"This is the first year that we're operating under the condition, and the assumption that there cannot be any overruns," he said. "That's why we're very closely working with our water users."

One of those water users is the Imperial Irrigation District, which holds the largest entitlement to Colorado River water, 3.1 million acre-feet. Agricultural water consumed within the district is up by about 81,000 acre-feet over what was estimated for this time of year. A spokesperson for the district, known as IID, said in an email that it is still early in the year and noted that agricultural water demand varies from year to year, a direct result of commodity markets and food supplies.

"For this year, IID has used less than 25 [percent] of its annual supply in the first quarter," wrote Robert Schettler, a spokesperson for the district. "Given the variation of [agriculture] water demands and IID water management initiatives, the district does not anticipate ending the year in an overrun status as IID is working aggressively with the growers of the Imperial Valley to this end."

Despite the recent increase in demand, over the past several years, California has used less than its total allocation, cumulatively leaving more than 1 million acre-feet in Lake Mead. That water in Lake Mead was stored in a reserve account, under a program known as Intentionally Created Surplus, or ICS. The program credits water users for storing a portion of their share in Lake Mead. In exchange, water users can withdraw from their reserve account at a later date.

With other California water [supplies facing severe drought shortages](#), the Metropolitan Water District likely will have to tap into its reserve account at Lake Mead.

California's decision to store so much water in Lake Mead, there would have been an official declaration many years earlier. But it was known, when the multi-state agreements were signed, that it could one day be removed when needed.

Still, he acknowledged the “timing isn’t great.”

“We wish we didn’t have to, but we really have no choice,” Hasencamp said.

Meanwhile, Arizona, California and Nevada are working to implement a plan, [signed last year](#), to keep an additional 500,000 acre-feet in Lake Mead over the next two years. Officials hope that this plan, known as the 500+ Plan, in addition to other agreements, can help stabilize the system as negotiations continue about how to manage the river when current rules expire in 2026.

At the same time, the Upper Basin has been criticized for not taking as much of an organized approach to curbing water demand, similar to the Lower Basin, which has worked for years to slash its consumption of water through a variety of system-wide programs. The creation of a demand management program in the Upper Basin [has been a point of contention](#), and tensions remain among some water users who have sought to increase their use of the river.

In an interview, Elizabeth Koebele, who studies Colorado River governance at UNR, said the Department of Interior letter is what political scientists describe as a “focusing event.”

Koebele said it could serve as an opportunity that catalyzes the basin states into action and promotes system-wide thinking about how to move forward. She said it was a recognition of the reality facing the basin — that the hydrology is so bad that the federal government is taking action.

She asked: “When are we going to get to a level when we actually have to do something big?”

The situation, Hasencamp said, underscores how tough the negotiations will be over the long-term management of the river.

“The hope is and the expectation is that we have enough agreements in place to get us through the next four years,” Hasencamp said. “The last few years have also shown us that the future risks that we were all kind of hearing about came a lot sooner — and are in our face.”



A view of Hoover Dam is seen on Wednesday, Aug. 28, 2018. (Jeff Scheid/The Nevada Independent)

Here's what else I'm watching this week:

KUNR's Bert Johnson [looks at snowpack in Northern Nevada](#). Things are not good. "January, February, and March this year added up to the lowest precipitation for those three months that we've ever seen at SNOTEL sites, going back to the early '80s," said Jeff Anderson, a Nevada hydrologist with the USDA's Natural Resources Conservation Service, known as NRCS.

Something to watch: "The Center for Biological Diversity filed a [petition](#) [this week] with the U.S. Fish and Wildlife Service seeking Endangered Species Act protection for the critically imperiled Railroad Valley toad, which is threatened by a proposed lithium production project and oil drilling." Here's [the press release](#) that the conservation group sent out on Tuesday.

E&E News' Jael Holzman and Hannah Northey [report on industry reaction — and a little bit of skepticism — to President Biden's use of the Defense Production Act](#) to encourage the supply of critical minerals needed to power large-scale batteries and electric cars. The reporting confirms that the order is not intended to change the permitting of mines on federal public land.

This week, my colleague Humberto Sanchez [looked](#) at Sen. Catherine Cortez Masto (D-NV)'s position on **efforts by progressive Democrats to reform the General Mining Law of 1872**.

"Climate change impacts the majority of Nevadans on a daily basis, according to a new Suffolk University/*Reno Gazette Journal* poll of Nevada voters," *RGJ* reporter [Amy Alonzo writes](#). "The survey of 500 Nevadans shows that most people in the Silver State share concern about the impact of global warming, **especially when it comes to the rise in wildfires in the West and resulting poor air quality.**"

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State Expands Save Our Water Public Awareness Campaign as Drought Intensifies

Published: Apr 14, 2022

Education campaign focuses on encouraging Californians to reduce outdoor water use and expands its network of partners and influencers

SACRAMENTO – Over the past few months, the state has ramped up communications efforts around the Save Our Water campaign focused on encouraging Californians to reduce water use as drought conditions worsen. This week, the campaign rolled out new content across various multimedia platforms including social, digital and streaming platforms, out-of-home, and radio. The multilingual ads communicate the urgent need to save water and provide actionable steps Californians can take.

Today, the state hosted a briefing with more than a dozen social media influencers and content creators calling on them to support the statewide education efforts. Governor Gavin Newsom joined State Water Resources Control Board Chair Joaquin Esquivel, Department of Water Resources Director Karla Nemeth and Department of Fish and Wildlife Director Chuck Bonham in highlighting the state's severe drought conditions and calling on influencers to engage Californians on how to save water.

“Make no mistake, California and the entire West are feeling the effects of the intensifying drought – notwithstanding today’s rainfall,” said Governor Newsom. “We’re putting to work the lessons learned during the last drought, but with our climate getting hotter and drier, it’s critical that we work together to protect our water supply. Engaging Californians from all walks of life and connecting peer to peer, we can meet this challenge head-on.”



Governor Newsom joins Save Our Water public awareness campaign briefing

New paid media includes urgency ads in convenience and grocery stores, radio spots in multiple languages including Spanish, Cantonese, Mandarin, Vietnamese and Hmong, LED billboards across California, and signage at sanitizer stations, among other public awareness efforts.

An example of a new [Save Our Water radio spot can be found here](#).

Following three months of record dry conditions and a rapidly declining snowpack, the [April snow survey](#) conducted by the Department of Water Resources (DWR) found that the state snowpack was well below average for that date. The snowpack has plummeted in recent weeks as unseasonably warm temperatures have hit the Sierra, with snowpack – which provides about a third of California’s water supply – currently at only 25 percent of average for this date. Dry conditions are impacting every region of the state and many of the state’s reservoirs remain at below average levels following several years of drought.

“California just experienced the driest first three months of the year on record, and drought is worsening throughout the West,” said California Secretary for Natural Resources Wade Crowfoot. “Climate-driven water extremes are part of our reality now. The Save Our Water campaign aims to create a broader and long-term culture of water conservation and highlights the urgency for Californians to take important steps to save water. From everyday actions like watering less outdoors to switching to low-water plants, there are simple steps we all can take.”

To help encourage more conservation at home, the state has enhanced its [Save Our Water](#) campaign following additional [state funding allocated](#) in March. The public education campaign aims to highlight the dire drought conditions and the urgency behind the call for immediate action, including making some permanent water smart changes to homes and yards that offer the biggest ways to save water.

“While the state has made significant investments in tools and technologies to ensure we make the most out of the snowmelt, water conservation remains our best tool in the face of this ongoing drought,” said DWR Director Karla Nemeth. “All Californians must focus on conserving water now. The Save Our Water campaign will help engage Californians with the information and resources they need. Saving water today means more water for tomorrow.”

Working to drive conservation at the local level, Governor Newsom last month [called on](#) the State Water Board to consider requiring urban water suppliers to activate, at a minimum, Level 2 of their customized Water Shortage Contingency Plans, which require locally-appropriate actions that will conserve water across all sectors. The Governor also directed the State Water Resources Control Board to consider a ban on the watering of decorative grass at businesses and institutions.

Today’s influencer briefing is part of a larger comprehensive push by the Save Our Water campaign. The campaign is undertaking a highly targeted statewide education effort to inform Californians about the state’s severe drought and to raise awareness of how they can save water, including updating yards with water-smart plants and drip irrigation, as well as adjusting sprinklers, to water only where needed. The multilingual campaign includes:

- A refreshed [website](#) highlighting key ways Californians can save the most water as well as other water-saving actions to make both immediate and lasting changes
- Increased statewide advertising presence with an emphasis on areas with high residential water usage, including digital, radio, print, billboards and retail presence
- In-language advertising, media engagement and educational materials in Spanish, Chinese, Vietnamese, Korean, Hmong and Tagalog to spread awareness across California’s diverse communities through trusted communications channels
- Collaboration with local water agencies and municipalities to increase urgency behind conservation at the regional and state levels through earned media and other communications
- Partnerships with celebrity and social media influencers and content creators, including celebrated cartoonist Lalo Alcaez, Isabella Ferregur, Jesus Zapien, Monica Villa, Leo Gonzalez, and Mario Lopez, to share easy and practical ways to incorporate saving water into Californians’ daily routines
- Partnerships with California sports teams, businesses, retailers, and other organizations to expand the reach and visibility of Save Our Water
- The California WATER WATCH [website](#) informing Californians about the hydrological conditions in their own communities and connecting residents with local water suppliers for available incentives and rebates to support water-saving upgrades in the home and yard
- Coordination with college campuses to amplify the call to save water across generations
- Water-savings resources at community events statewide, including farmers markets, home and garden shows and county fairs

More information on the state’s response to the drought and informational resources available to the public are available at <https://drought.ca.gov/>. For water-smart tips and information, visit [SaveOurWater.com](#).

###

75°

LIVE



WEATHER

How San Diego stands out amid California drought

by: [Matt Meyer](#)

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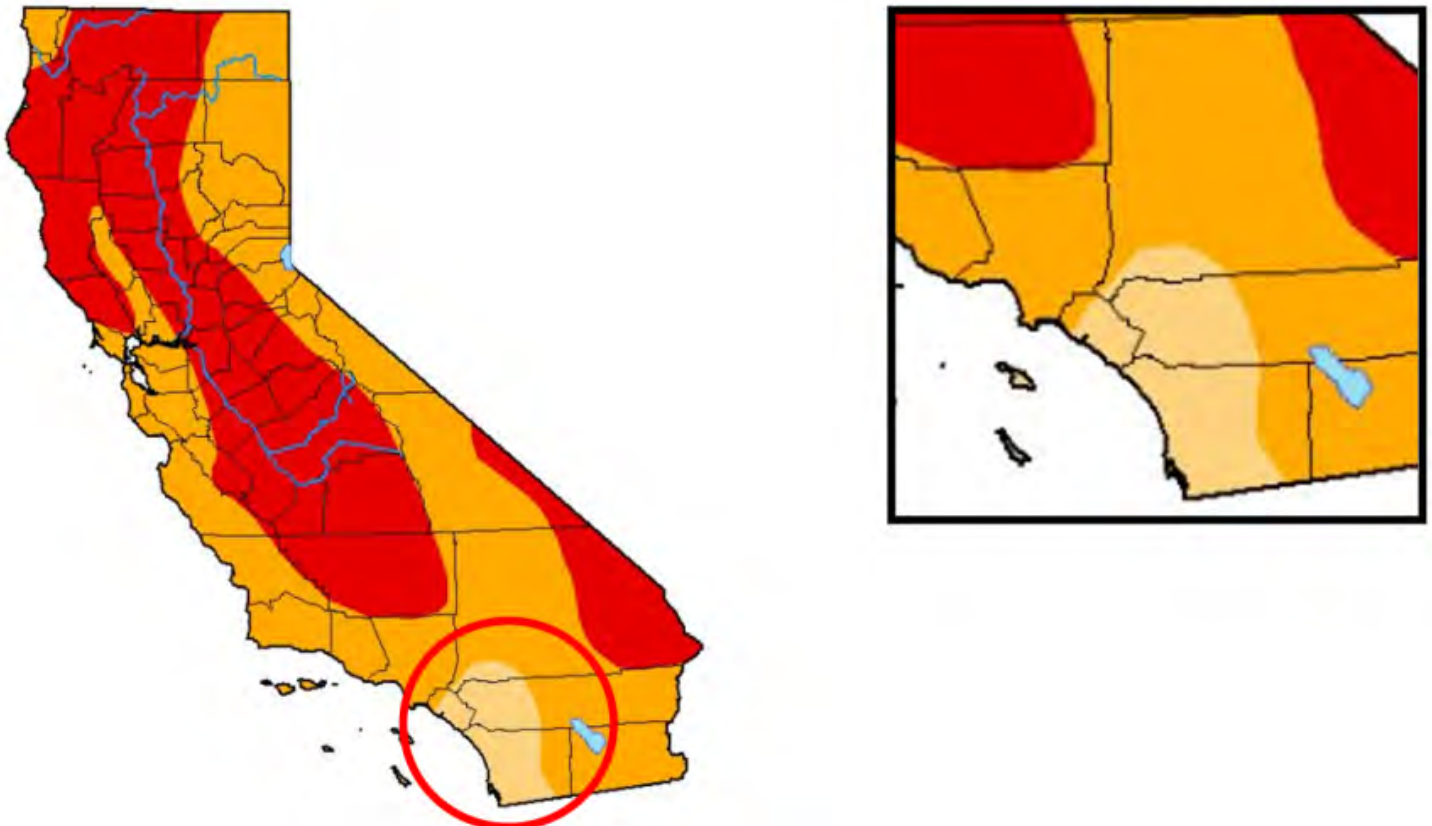
SAN DIEGO — After the driest first three months of a year in state history, California’s governor [sounded the alarm](#) last month, urging residents to use less water.

Gov. Gavin Newsom’s [executive order](#) asked Californians to tighten their belts and called on local water agencies to aggressively conserve water. But the order came with a caveat: “locally-appropriate actions” — as in, each part of the state can make decisions based on the unique conditions in their region.

If you glance at a [map of California from the U.S. Drought Monitor](#), you'll notice something unique at the southern border. In a sea of dark orange and red, indicating “severe” or “extreme” conditions, there’s a lighter patch of “moderate drought” encompassing most of San Diego County.

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San Diego is not immune to the dry conditions, and the Drought Monitor’s ratings [provide only a broad snapshot](#) — a combination of everything from rainfall totals to vegetation health and water supplies. But officials on the ground confirm that the county is uniquely well-positioned for dry times.



In this April 12, 2022 drought map, San Diego is one of the state’s only areas labeled “moderate” among counties in “severe” or “extreme” droughts. (Courtesy U.S. Drought Monitor)

The phrase “locally-appropriate actions” is music to the ears of Jeff Stephenson, a water resources manager at San Diego County Water Authority. He says the region deserves the freedom to chart its own path, thanks to a major effort by residents to conserve and the county wholesaler to aggressively attain water.

The push started 30 years ago, when a drought in the 1990s forced San Diego to face facts about its water supply, Stephenson told FOX 5 in a phone interview last week.

Subjected to strict, statewide conservation measures — and gradually educated about basic ways to save water — residents did their part. San Diegans reduced their water use per person about 43% since 1990, according to Stephenson.

For its part, the Water Authority set about diversifying its sources. The agency is a regional wholesaler, supplying [24 water districts and cities](#) with some or all of their water. Expanding beyond its reliance on the Metropolitan Water District, or “the Met,” in Los Angeles, the Water Authority and its member agencies made a range of major investments in their water supply.

Stephenson credited [raising the height of the San Vicente Dam](#), a [desalination plant in Carlsbad](#), and [joint programs](#) that reward farming efficiency and capture excess water in the Imperial Valley among the supplier’s most successful ventures.

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While the wholesaler stockpiled water, residents used less and less, leaving San Diego in (relatively) better shape during another period of severe drought in the 2010s. But Stephenson says then-Governor Jerry Brown’s drought restrictions “didn’t really consider different parts of the state.”

“One-size-fits-all wasn’t necessarily the best way,” he told FOX 5. “We had all the water we needed ... but we weren’t allowed to use it.”

Instead, San Diego was expected to meet the state’s uniform mark — a 25% reduction in water use. “That doesn’t let us enjoy the benefits that we’ve developed for the past 30 years,” Stephenson said.

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The Water Authority was happy to see local control infused in Newsom’s new orders. Now, Stephenson says residents can keep doing what has become a “way of life” in San Diego: Using water efficiently and conserving on a daily basis, but not stressing about stricter water-use measures at this time.

The region’s remarkable drought resilience comes with a cost. Even as San Diego residents have used less water over the years, many have paid more on their monthly water bill. That was the subject of a recent Voice of San Diego report titled, [“Why Your Water Bill is Rising.”](#)



The San Vicente Dam in East County San Diego, north of Lakeside. The San Diego County Water Authority raised the dam 117 feet in the early 2010s, giving the region better water storage capacity. (Photo: SDCWA)

It’s also caused some consternation among the Water Authority’s member agencies. The presidents of the Fallbrook Public Utility District and the Rainbow Municipal Water Districts’ boards of directors recently used a [Times of San Diego editorial](#) to call on the wholesaler to curb rising prices.

“Ballooning costs,” they argued, “are largely the result of decisions made years ago by the Water Authority to spend billions of dollars on water storage and recycling projects and on long-term contracts to purchase water.”

Therefore, the writers argued, the wholesaler has a responsibility to bring prices down at the retail level.

But as MacKenzie Elmer put it in her piece for VOSD, “it’s notoriously difficult to fairly compare how the cost of that supply affects parts of San Diego.”

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Rates are set by individual member agencies, and they vary based on how those retailers get their water. Some rely more on the wholesaler than others, and some have their own initiatives that raise or lower their customers’ bills. There are also significant costs to the Water Authority, like the rates set by the Met in L.A., that are outside the local wholesaler’s control.

Officials with the Water Authority generally acknowledge that the cost of their projects and contracts is passed on to consumers in monthly bills.

But the supplier says residents statewide will inevitably face rising prices as the drought deepens. San Diego acted early and is reaping the benefits of greater water supply, while other areas still need to make costly investments of their own to put their region in a better position, representatives say.

While wholesale rates are currently higher in San Diego than they are for the Met, for example, the [Water Authority projects](#) the price of water will rise far more rapidly there than in San Diego over the next 16 years.

While the agency continues exploring ways to lower water bills for customers, Stephenson says there’s a new frontier for residents.



Side-by-side images show the “before” and “after” of a San Diego County yard makeover to be more water-efficient. (Photo: San Diego County Water Authority)

San Diegans have largely adopted the “easy, low-hanging fruit” practices, especially in adopting appliances that waste less water, he told FOX 5.

Landscaping alternatives offer homeowners and businesses the next step, especially ripping out grass yards and replacing them with more water-friendly plant life. Tastes in California have evolved, Stephenson says, and drought-proofing your yard has become more attractive and attainable.

Ready to start? You can check out [FOX 5’s guide to making your yard more water-efficient](#) and watch the Water Authority’s free video series on the process, “[Water Smart Landscape Makeover](#).”

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UTAH ENVIRONMENT POLITICS

Gov. Cox hails 'generational' effort in Utah's water law history

Lawmakers, water resource managers celebrate seismic shift
By Amy Joi O'Donoghue | Apr 18, 2022, 6:30pm PDT



Very low water levels at Jordanelle Reservoir in Wasatch County are pictured after Gov. Spencer

Utah Gov. Spencer Cox said that last summer he took a bit of criticism after he asked residents — both religious and nonreligious — to pray or seek divine intervention for rainfall to counter the effects of the drought.

“To all those people who asked what are YOU going to do, this is the answer,” Cox said. “This is generational.”

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Gov. Spencer Cox and Lt. Governor Deidre Henderson ceremonially sign key water legislation at Jordanelle Reservoir in Wasatch County on Monday, April 18, 2022. | Scott G Winterton, Deseret News

The “this” is the Utah Legislature’s passage of a dozen water-related bills and ensuing endorsement by Cox that transform them into law. The “this” he added is the

and lastly the “this” is the extensive amount of collaboration to “lift” a desire for change into actual action.

Against the backdrop of a half-full Jordanelle Reservoir, Cox and Lt. Gov. Deidre Henderson participated in a Monday ceremonial signing of the water bills, with Cox musing that he knew for sure the bills and money this year significantly outpaced anything that been done in water law and funding in at least more than a decade and probably in state history.

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Last year by mid-March, Cox had declared a state of emergency for Utah, and he said it is likely that some declaration will happen again as he huddles with water providers and agency leaders.

It's grim.

Consider that 99% of Utah is in severe drought and 28 of Utah's largest 45 reservoirs are below 55% of available capacity. Eight streams are flowing at record low conditions, according to the Utah Division of Water Resources.

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During the legislative session, there was significant action to help the Great Salt Lake, which reached its historic low last year and continues to shrink.

House Speaker Brad Wilson, R-Kaysville, worked to establish the Great Salt Lake Watershed Enhancement Program. which creates a \$40 million water trust to help the

The measure, HB410, tasks the Utah Department of Natural Resources with undergoing a selection process for a conservation organization that will be in charge of the trust and award money for restoration in the Great Salt Lake watershed and the acquisition of water rights to benefit the lake.

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The Deseret News is on a journey to help the Great Salt Lake. And we’re not alone

Rep. Joel Ferry’s HB33 is another significant piece of legislation that grew out of the session and designates, for the first time in the history of the state, the bed of the Great Salt Lake — essentially the lake itself — as a beneficial use for water rights. Ferry, R-Brigham City and a farmer himself, cobbled together a complicated compromise bill that allows farmers and other holders of water rights to lease those rights to the Utah Division of Forestry Fire and State Lands, which has oversight of the lake bed.

“This bill is one I would consider generationally one of the most important pieces of legislation that you will see,” he said. “This is a huge step forward, a huge lift, and one of the most important pieces of legislation we were able to accomplish this year.”

Like Cox, Ferry emphasized the critical factor of collaboration.

In terms of individual water use, one measure by a Utah County lawmaker will create a great opportunity for water saving measures. Sponsored by Rep. Val Peterson, R-Orem, HB242 provides \$250 million in grants to fast track the metering of secondary water.

He noted the water savings achieved over time would be enough to fill Jordanelle Reservoir — or approximately 80,000 acre-feet.

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In those areas of Utah where meters have been installed to track use of secondary water, providers have found that consumption on a per-household basis has decreased by as much as 30%, and when compared against neighbors’ use, people become increasingly conscious about water savings.

Other water-related action taken by Utah this year include:

- The nation’s first statewide turf buy back program in which homeowners will be compensated for the turf they rip out and replace with water-wise landscaping.
- The requirement that general plans of cities and counties integrate land use planning with water as a consideration.
- A study for the prioritization of water rights — who gets what and how much — during an extreme water shortage.

Cox and others stressed the need to do even more as Utah continues down this path of unprecedented drought.

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After the press event, Cox told the Deseret News that the drought has not taken controversial water development projects like the Lake Powell Pipeline and Bear River Development plan off the table.

Also in the midst of planning are potential new water storage projects in Utah.

“We have to work with the resources on the ground,” he said, but noted the paradox of having drought drive home the need for more water storage with the reality of less water available for storage.

“Our eyes are wide open,” he said

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Dry as a bone: Las Vegas enforces new water restrictions

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By: [Newsy](#)

Posted at 7:35 PM, Apr 18, 2022 and last updated 7:35 PM, Apr 18, 2022

The megadrought gripping the Western United States is widening.

Fifty-seven percent of the country and 100% of Nevada is in some level of drought, and nowhere is it as obvious as along the Colorado River.

In the Southwestern U.S., the massive Lake Mead Reservoir near Las Vegas is not as massive as it used to be. The water level has dropped to near-record-low levels. Drought has reduced the flow of water into the river, which has forced communities to cut back.

"Conservation in this valley means getting after our landscaping uses," said Colby Pellegrino, deputy general manager of resources at the Southern Nevada Water Authority.

SNWA saw this coming — it started enforcing aggressive water restrictions two decades ago.

In the Las Vegas area, 40% of the water is used inside homes. That water is recycled and sent back to Lake Mead. But the other 60% is used outdoors. The harsh desert sun evaporates it and it can't be recaptured, leading the water levels in the river and reservoir to keep dropping.

The water authority targeted the lush green grass that's not native to the desert, encouraging people to remove it.

"If that's not turf you're recreating on, if it's just there to look pretty or aesthetic, it really doesn't belong in this desert community," Pellegrino said.

At first, residents and businesses were slow to pull up their lawns. The removals surged in 2010, with almost 9 million square feet removed. The numbers dropped in the last few years; because it's been so productive, there's not much left to pull out.

Since the push started two decades ago, the Water Smart landscaping program has saved 152 billion gallons of water. That's enough to fill the Luxor Hotel

Pyramid 422 times. But the authority is doubling down — it rebates homeowners and business owners \$3 per square foot for the grass they remove (up to 10,000 feet), which is a lot of the good kind of green. And SNWA is working to implement even stricter rules.

"All new development cannot have turf unless it's a school park or cemetery," said Pellegrino.

Nevada's governor is also getting tough on lawns. He's signed a law requiring the removal of all decorative grass at businesses, complexes, along streets and in traffic medians in the next four years.

The program has been so successful that even as the population across southern Nevada grew by almost 50%, the amount of water used per capita was cut almost in half, and the water drawn from the Lake Mead Reservoir dropped by a quarter.

Cities and other states throughout the West are considering getting tough on lawns due to the drought.

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 APRIL 20, 2022

After wildfires, scorched trees could disrupt water supplies

by Brittany Peterson

In a California forest torched by wildfire last summer, researcher Anne Nolin examines a handful of the season's remaining snow, now darkened by black specks from the burned trees above.

Spring heat waves had already melted much of the year's limited snowfall across California and parts of the West when Nolin visited in early April. But she and her colleague are studying another factor that might've made the snow vanish faster in the central Sierra Nevada—the scorched trees, which no longer provide much shade and are shedding flecks of carbon.

The darkened snow is "primed to absorb all that sunlight" and melt faster, said Nolin, who researches snow at the University of Nevada, Reno.

As climate change fuels the spread of wildfires across the West, researchers want to know how the dual effect might disrupt water supplies. Communities often rely on melting snow in the spring to replenish reservoirs during dryer months. If snow melts earlier than normal, that would likely leave less water flowing in the summer when it's most needed, Nolin said.

Multiple studies indicate that snow in a burned forest disappears up to several weeks sooner than snow in a healthy forest because of the lack of a shade canopy and carbon shedding from trees that intensifies the absorption of sunlight.

Water forecasting factors in variables including snow density, soil moisture and air temperature. Although dark accumulation on snow isn't widely measured, Tim Bardsley, a hydrologist with the National Weather Service, said it is a contributing factor to the timing of snowmelt and is worth considering incorporating into supply forecasting.

Dust, ash and soot similarly affect snow by causing it to absorb more light in what's known as the "albedo effect." But California officials are increasingly worried about carbon, which absorbs even more.

"It was like, OK, we really need to understand this. This is the new norm," said David Rizzardo of the California Department of Water Resources.

In some fire-damaged areas, state officials are beginning to map snow from planes with cameras that measure albedo and have plans to upgrade remote sensing stations as well.

Already, a warming climate is leading to earlier snowmelt and leaving places more vulnerable to wildfire, said Noah Molotch, who researches water and snow cycles at the University of Colorado, Boulder. A burned area "exacerbates the impact of drought" by leading to even dryer conditions in hotter months, he said.

Nolin and graduate student Arielle Koshkin hiked into the El Dorado National Forest for one of their final measuring trips earlier this month when the region typically has the most snow accumulation. Little remained when they arrived in part because of unusually hot temperatures this spring and a long streak of cloudless days.

Late-season storms have since blanketed the carbon-coated snow with several inches of fresh powder, which Nolin said could help slow the melt.

Meanwhile, the Caldor Fire that burned the area and more than 200,000 acres last year has left nearby communities scrambling over more immediate water worries.

About 40 miles southwest from where Nolin surveyed the snow, the town of Grizzly Flats is working to fix a water pipeline damaged in the fire. The pipeline diverts snowmelt into a reservoir but burned trees keep falling and puncturing it.

It's not yet clear exactly how the charred trees might disrupt their future water supply. So far this year, water managers said runoff from snowmelt appears normal. But officials don't know for sure since the gauges in the stream melted in the fire.

Jodi Lauther, general manager of the local water agency, said she's concerned about the fire's lasting effects. For now, she said, "we are in survival mode."

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Demand for smart water meters continues to rise

By **EVE Energy** - Apr 21, 2022

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Image Credit: EVE Energy

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An oil pump jack is framed between tanks in Railroad Valley on Monday, Feb. 5, 2018. (Jeff Scheid/The Nevada Independent)

Indy Environment: Federal government plans to resume oil and gas leasing on public lands

Good morning, and welcome to the Indy Environment newsletter.

As always, we want to hear from readers. Let us know what you're seeing on the ground and how policies are affecting you. Email me with any tips at daniel@thenvindy.com

If you received this from a friend, [sign-up here](#) to receive it in your inbox.

The federal government [announced plans](#) last week to resume oil and gas leasing on public land. And on Monday, the U.S. Bureau of Land Management [sent out a press release](#) that it

Those leases would be sold off in Railroad Valley, one of the few areas in Nevada with known geologic potential for oil. It is also an area that is facing increasing pressures from development. One company is proposing to [recover lithium from an underground aquifer](#) beneath the valley, and [NASA has proposed](#) claiming thousands of acres within the valley to calibrate satellites.

More on that in a minute. First, some background on the resumption of oil and gas leasing:

Any new leases will come with a new requirement: **For the first time in more than a century, the federal government plans to raise the royalty rate on companies that produce oil and gas on public land.** The [rate will increase](#) from 12.5 percent of revenue to 18.75 percent.

But the move frustrated both climate activists and the oil industry. During his 2020 race, President Joe Biden pledged to end oil, gas and coal leasing on public land. Many Democratic candidates vying for the presidency, at the time, made similar pledges as part of their plans to address climate change and transition to an economy less reliant on fossil fuels.

To climate activists, the resumption of oil and gas leasing on public land [stands as a symbol](#) of the challenges the president has faced in enacting his ambitious climate agenda, both in Congress and even administratively. They argue that the reversal flies in the face of the United States' commitments with the Paris Agreement and undermines the administration's climate agenda.

In January 2021, the Biden administration announced a temporary pause on new oil and gas leasing as it reviewed the federal program. But shortly after, in June of that year, a federal judge in Louisiana [issued an injunction on the executive order](#), saying the authority to pause the leasing program rested with Congress — and Congress has stalled on Biden's climate agenda.

The decision to resume federal leasing for oil production comes as the administration also faces pressure to ease prices at the pump. **Still, the return of federal lands leasing is unlikely to ease those pressures in the immediate future, as it takes time to drill production wells.**

The oil and gas industry felt that the administration's decision to resume leasing did not go far enough (see this excellent article by [Bloomberg Law](#) for more). And legal challenges to the Biden administration's federal oil and gas leasing policy remain on the table, even as the administration has continued to approve drilling permits for firms with existing leases.

So where does Nevada fit in? About 85 percent of Nevada is federal public land, and about 67 percent of the state is managed by the U.S. Bureau of Land Management. Over the past few years, large swaths of land have been nominated for oil and gas leasing — and subsequently auctioned off for little compensation in places where geologists say there is little oil potential.

That trend has led politicians and officials to criticize the leasing program in Nevada as speculative. And it has spurred calls from the Nevada delegation, including [Sen. Jacky Rosen \(D-NV\)](#) and [Sen. Catherine Cortez Masto \(D-NV\)](#), to reform the oil and gas leasing program.

On Monday, Rosen applauded the administration's decision to [include reforms](#) with the resumed program. In addition to raising the royalty, the federal government plans to add more layers of scrutiny to the reviews it does to determine what areas of public land should be open to lease.

wells coming online, something that could negatively affect state and federal climate goals.

And that takes us back to Railroad Valley in Nye County, where 2,560 acres of land is being offered for lease in June. Initially, land managers considered leasing more land within a Wildlife Management Area. But those parcels, about 7,936 acres of land, have since been removed from the June lease sale.

Environmentalists are still watching the lease sale closely. Railroad Valley is one of the places in Nevada where there is active oil and gas production taking place — and more might be coming.

Here's what else I'm watching this week:



*The Muddy River before it is diverted to a channel that runs through the Moapa Valley and into Lake Mead on Aug. 13, 2020.
(Jeff Scheid/The Nevada Independent)*

The 8th Judicial District weighs in on a Southern Nevada water issue with far-reaching implications. On Tuesday this week, a District Court judge in Clark County [vacated a state water decision](#) on how to manage an interconnected set of groundwater aquifers that feed the Muddy River, a tributary of the Colorado River that flows into Lake Mead. The District Court judge, Bitu Yeager, said that Nevada water regulators exceeded their statutory authority in their attempt to consolidate how water rights are managed in the complicated groundwater system that connects with the Muddy River. In addition, the court found that the state violated the right to due process “by failing to provide adequate notice and a meaningful opportunity to be heard.”

Nevada Water Authority, Coyote Springs, the Moapa Valley Water District, NV Energy, the Center for Biological Diversity, and the Apex Industrial Park (just to name a few). For more background on what's going on and what's at stake, I wrote about [the dynamic](#) in 2020. Given everyone involved and what's at stake, **it's likely the court order will be appealed.**

- **The bigger picture:** The way that state regulators sought to manage the Muddy River, in its now vacated decision, was an attempt to address an overall issue that is all too common — that there are more rights to water on paper than there is water available to use sustainably. In its decision, regulators looked to integrate the well-documented interconnection between groundwater and surface water, in addition to the connections between aquifers. **But the court effectively said that Nevada Revised Statutes does not afford it with the authority to do so.** It's not just in the Muddy River where this is an issue, and the outcome of this litigation will be important for how water is managed across the state — and whether the Legislature acts on these issues in future sessions.

What does the situation on the Colorado River mean for Las Vegas? *KNPR* published a really [interesting conversation with the Southern Nevada Water Authority's John Entsminger this week](#). The interview looks at how Las Vegas has secured Nevada's Colorado River supply through investments in infrastructure and conservation — and how that fits into the broader picture of a Colorado River, regionally, that is facing a crisis and an [imbalance between supply and demand](#).

D.H. Horton Inc., which describes itself as “America’s Builder,” announced plans last week to acquire Carson City-based Vidler Water Resources, Inc., a company that operates a portfolio of water rights and development projects across the Southwest, including in Nevada. The total value of the merger is about \$291 million, [according to the announcement](#). Here's what [the press release](#) said: “**Vidler owns a portfolio of premium water rights and other water-related assets in the southwestern United States in markets where D.R. Horton operates that require water for development, but face a lack of adequate supply.** Vidler’s highly experienced management team has a proven track record of accessing, developing and realizing value for premium water assets while expertly navigating local regulations and working with governmental entities.”

Interesting story from the [AP's Brittany Peterson on the way wildfires disrupt the water cycle](#).

The Department of Interior [released a roadmap on permitting renewables on public land](#).

- For anyone watching public lands, this is an important [High Country News piece to read about the U.S. Bureau of Land Management's new director, Tracy Stone-Manning](#).

Nevada Gold Mines [announced a partnership with First Solar](#) to build a 200-megawatt solar array. The state's largest gold miner, a joint venture between Barrick and Newmont, has pledged to reduce its carbon footprint 20 percent by 2025. Nevada Gold Mines operates one of the two remaining coal power plants in the state. The company plans to convert the plant to natural gas.

MINEPAC gives to Cortez Masto, [Roll Call's Benjamin J. Hulac reports](#).

"Elon, if you want to talk to us, come and say hello." That's a quote from the CEO of Lithium Corp., a company with Nevada mining claims, in a *Reuters* [story this week](#)

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tesia might actually have to get into the mining & refining directly at scale, unless costs improve. There is no shortage of the element itself, as lithium is almost everywhere on Earth, but pace of extraction/refinement is slow.”

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The Colorado River is in trouble. Here's what the Southern Nevada Water Authority is doing to help



AP Photo/Jae C. Hong, File

FILE - In this Oct. 14, 2015, file photo, a riverboat glides through Lake Mead on the Colorado River at Hoover Dam near Boulder City, Nevada.

May 02, 2022 by *Dave Berns, Kristen DeSilva*

If you haven't watched local government TV lately, and you're excused if that's the case, you might have missed an understated but massive message about water and the ongoing drought.

Southern Nevada is using less water from the Colorado River than allowed, in large part because the area returns recycled water to the river.

But looking ahead, that trend will slow and likely reverse unless changes are made.

That led Clark County commissioners to ask if developers must include water use in their plans when they ask for approval to build.

If that happens, it would be an immense change in Clark County, where for years local governments rarely asked developers questions about growth beyond, "Can we get more?"

How'd we get here? What do water authorities see that is causing concern? And what more needs to be done?



In a December zoning meeting, Clark County commissioners had those questions for John Entsminger, the head of the Southern Nevada Water Authority.

At the meeting, he outlined Southern Nevada's population growth. At the same time, the area used less water than allowed through the Colorado River agreement. Since 2002, the population grew by 750,000. At the end of 2021, water use was down 26%.

"We've really accomplished that by being a global leader in urban water conservation. Our biggest program has been our water smart landscape program to incentivize people to take out turf from their homes and businesses. But we've really had a full suite of conservation measures over the last 20 years to be able to achieve those results," he said.

The incentive program offers \$3 per foot up to 10,000 square feet.

In that same meeting, Entsminger noted as great as their achievements have been, the area's usage in gallons per capita per day – 112 – has stagnated.

"What I was highlighting to the commission is now is no time to be resting on our laurels. The Colorado River is in serious trouble," he said. "And we're going to need to do more to ensure a safe and reliable water supply for our community."

He addressed the desire to eliminate evaporate coolers on new construction moving forward. He noted Southern Nevada mainly consumes water through three ways: outdoor irrigation, evaporate coolers and septic systems.

SNWA is working with the business community regarding the coolers to come up with a "solution that can be implemented uniformly across jurisdictional boundaries, and can allow economic diversification to continue, but also doing so in a way that recognizes our finite water resources," Entsminger said.

Coolers use about 7,500 acre-feet of water, which Entsminger said is worth about \$200 million in terms of finding a replacement supply.

Within the last few months, Entsminger said the Las Vegas Valley Water District prohibited installation of new turf anywhere except parks, schools and cemeteries. New, single-family homes will not be allowed to have turf.

All nonfunctional grass will be eliminated retroactively by 2026, following a Nevada Legislature approval. It's aimed at 3,900 acres around the Las Vegas Valley. "We

think, generally speaking, it only gets walked on by the person who's mowing it."

Will this mean homeowners in neighborhoods with older homes will need to get rid of their yards?

"We always say conservation is a journey. It's not a destination," he said. "That sort of mandate is not in our 50-year resource plan."



The plan is adjusted each year.

"We've known [extreme drought and climate change would impact the region] since 2002, which was the driest year in the recorded history of the Colorado River," he said. Then, 2020 and 2021 broke drought records again and again.

In the meantime, SNWA is working on persuading about 15,000 septic tank users to hook into the municipal system. Every drop of water that hits a drain in Southern Nevada, if you're hooked in, goes to a treatment plant, then Lake Mead, and can be recycled. For those on septic systems, each shower, flush and hand wash is water immediately wasted.



Rob Schumacher/The Arizona Republic via AP, File

FILE - A high-flow release of water flows into the Colorado River from bypass tubes at Glen Canyon Dam in Page, Ariz., on Nov. 19, 2012.

Should residents worry?

“What I would tell the residents of Southern Nevada is you live in the most water-secure city in the desert Southwest,” he said. “We have invested \$1.5 billion in the third intake and the low lake level pumping station at Lake Mead to ensure that we can access water supplies for the citizens of Southern Nevada, even in a condition where the federal government can’t release water through Hoover Dam downstream to Arizona, California and Mexico.”

He said Clark County has spent 20 years building up water reserves. They also agreed to invest \$750 million with the Metropolitan Water District of Southern California to invest in their regional recycling facility.

“You will hear people refer to the Colorado River as the most litigated river in the history of the world, which was probably true” through the 1970s, he said. “But the story of the last 25 years has really been one of cooperation, one of finding flexibility within the law of the river, of working with our partners in the environmental community, with Native American communities, with our partners in the country of Mexico.”

hear more

APR 18, 2022

In drought-stricken West, officials weigh emergency actions

Guests: John Entsminger, general manager, Southern Nevada Water Authority

More from: [Nevada & the Southwest](#), [Southern Nevada](#), [drought](#), [colorado river](#), [lake mead](#), [water](#), [snwa](#), [Southern Nevada Water Authority](#), [climate change](#), [KNPR's State of Nevada](#)

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April storms help improve Truckee Meadows' water supply

by Abigail Vaerewyck
Friday, April 22nd 2022



FILE PHOTO: Truckee River

RENO, Nev. (News 4 & Fox 11) — This winter weather has been a roller coaster.

For the third year in a row, the Sierra snowpack is below average, but the later winter storms are helping with that. The good news is that the [Truckee Meadows Water Authority](#) (TMWA) confirmed that its customers don't have to worry about restrictions after looking at northern Nevada's water supply.

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Most of the water supply stems from Lake Tahoe and the Truckee River, and for the third year in a row the Sierra snowpack is below average. But the late winter storms are helping with that, the TMWA said that its customers don't have to worry about restrictions as we head into summer season. They are asking customers to continue watering every-other-day and to avoid watering between noon and 6 p.m.

Even though we saw excess snowpack in January, the next three months were the driest in the record. The Truckee River Basin measurement was 60% of its normal snowpack at the start of April. However, with the multiple sources supporting the water supply, experts say even before this last storm they knew they had enough water to meet customer demands.

TMWA Director of Distribution, Andy Gebhardt, says that they aren't worried about the drought because it isn't anything new and with ongoing water conservation initiatives and planning they don't expect to use any drought storage to meet customer demand this year.

“ We were happy before this last storm. We knew we had enough water supply to meet the customer demands, then there's you know, this last week and a half has been icing on the cake.

NEWS

In a season of weather whiplash, April storms won't bolster Tahoe snowpack, officials say



Amy Alonzo

Reno Gazette Journal

Published 12:26 p.m. PT April 22, 2022 | Updated 1:09 p.m. PT April 22, 2022

Do you have weather whiplash yet?

Over a 24-hour period from 7 a.m. Thursday to 7 a.m. Friday, Palisades Tahoe recorded 28 inches of snow; Donner Summit received 17 inches; Kirkwood received 24 inches; and South Lake Tahoe received 6.5 inches, according to the National Weather Service.

The heavy spring snowfall was part of a larger weather pattern that was the largest storm to date this year.

April's storms deposited 76 inches of snow on Donner Pass this month, making it the seventh-snowiest April on record for the Donner Pass Snow Lab; the lab is known for maintaining one of the longest snowpack and snowfall records in the world.

The snowy April follows exceptionally dry months in January, February and March. Those dry winter and spring months – typically the wettest for the Tahoe area – followed a record-breaking snowy December, which came on the heels of a record-breaking wet October.

“We’ve had a really strange water year,” National Weather Service Meteorologist Zach Tolby told the RGJ. “We’ve had records on each side.”

Sierra snowpack: Nevada farmers already feeling negative effects of climate change

Late April storms don't help snowpack

Such a large late-season storm doesn't do much for the area's snowpack and the wildfire forecast for the region, according to local meteorologists and hydrologists.

The April snow comes on the heels of an abysmal January, February and March; the months were the driest on record at all U.S. Department of Agriculture snow-measuring sites. Sites that usually see 10 to 30 inches of snow received as little as one to four inches this year.

As of April 1, local snowpack was dismally low – just 60 percent in the Truckee Basin, 55 percent in the Lake Tahoe Basin and 51 percent in the Carson Basin.

While getting a sizeable late-spring storm beefs up the snowpack a little bit, “when we get these later season storms, they don't have the chance to consolidate into ice, and they will melt off much quicker. It's just not quite as helpful,” Tolby said. “It's not the same as getting two feet earlier in the season, it just melts off so quick.

“We’re still remarkably low (for snowpack). It’s a little worrisome for fire season.”

'Falling behind': Nevada and California water woes continue as drought worsens

The late storm is also unlikely to impact reduced water allocations for area ranchers and farmers, said Greg Norris, USDA state conservation engineer.

“These types of storms – if we got a series of these, it could extend the snowpack further out so that it stays longer up there and you get more runoff – but if this is the only thing we get, it’s a blip on the radar,” he said. “It’s nothing. It just basically bolsters whatever’s there.

“And as far as fire – we’re so far down already. Every little thing counts, but we are so far down, this storm isn’t going to matter.”

According to NWS, temperatures are expected to breach 60 this weekend, with highs hovering around 70 degrees Monday through Wednesday.

Weather: Spring temps warming faster in Reno than anywhere else in the nation

TMWA water users will be fine

While ranchers, farmers and firefighters still have cause for concern this summer with ongoing drought conditions, Truckee Meadows Water Authority customers won’t need to worry about any restrictions this summer, the agency reported Friday.

No use of drought storage is predicted for this summer, according to Bill Hauck, senior hydrologist at TMWA.

“We really got a nice little boost here in April,” he said.

The water authority serves about 440,000 customers in the Northern Nevada region. Most of its water comes from the Truckee River, which originates in Lake Tahoe.

Customers are encouraged to continue watering every-other-day and avoid watering between noon and 6 p.m.

“We don’t worry about the drought. We worry about water supply. Because we are always in a drought, with periodic wet years,” according to Andy Gebhardt, director of distribution, maintenance and generation at TMWA. “We’re not in dire straights at all. We’re actually in better shape than we were last year.”

Amy Alonzo covers the outdoors, recreation and environment for Nevada and Lake Tahoe. Reach her at aalonzo@gannett.com. Here's how you can support ongoing coverage and local journalism.

Summer water forecast: We'll be OK



There was not mircal March, but an awesome April is helping the area's water supply.

By [Ed Pearce](#)
Published: Apr. 22, 2022 at 5:11 PM PDT

RENO, Nev. (KOLO) -We know we're in a drought, but what most of us want to know at this time of year is: Are we going to have enough water for the hot, dry months ahead? The Truckee Meadows Water Authority just answered that question.

TMWA's annual briefing is sort of a report card on our water supply, how much we got out of the winter storms, how long it will last through normal summer use and what they will ask of all of us to get there?

After the winter we've had you might be excused if you have difficulty guessing any of those answers.

Early season storms raised hopes our string of dry years was at an end. We entered January with a snowpack 225 percent of normal and then nature turned off the tap. The next three months were the driest on record. We ended March with less than half a normal snowpack.

No miracle March, but we got something like an awesome April.

These recent storms brought us up to 70 percent. Still in a drought, but TMWA's Andy Gephardt says no cause for worry.

"We're not concerned, he said. That doesn't mean we don't want conservation. It doesn't mean we don't want people to be smart about their water. We want them to be wise about their use. We're not in dire straits at all, We're actually in better shape than we were last year,"

So, we've been here before. we've got this.

"The latest model runs are projecting normal river flows through the end of September into October, said Water Supply Supervisor Bill Hauck. "and this is beyond our peak demand season. So we're going to have standard conservation protocols in place."

In other words, nothing changes. The advice is familiar. In fact, local ordinances require us to observe alternate watering days, avoiding the hottest hours and not wasting any of it in the gutter.

If we do that, we'll make it through another summer, after which we'll start wishing once again for a big winter.

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San Diego has shored up its water supplies by upgrading the All-American Canal, which takes Colorado River water to California's Imperial Valley. TED WOOD

A Quiet Revolution: Southwest Cities Learn to Thrive Amid Drought

Facing a changing climate, some southwestern U.S. cities such as San Diego, Phoenix, and Las Vegas have embraced innovative strategies for conserving and sourcing water, providing these metropolitan areas with sufficient water supplies to support their growing populations.

BY JIM ROBBINS / PHOTOGRAPHY BY TED WOOD • APRIL 26, 2022

In the rolling hills around San Diego and its suburbs, the rumble of bulldozers and the whine of power saws fill the air as a slew of new homes and apartments rise up. The region is booming, its population growing at a rate of about 1 percent a year.

This, in spite of the fact that Southern California, along with much of the West, is in the midst of what experts call a megadrought that some believe may not be a temporary, one-off occurrence, but a recurring event or even a climate change-driven permanent “aridification” of the West. The drought is so bad that last year federal officials ordered cuts to water provided to the region by the Colorado River for the first time in history.

Water officials in San Diego, though, say they are not worried. “We have sufficient supplies now and in the future,” said Sandra Kerl, general manager of the San Diego Water Authority. “We recently did a stress test, and we are good until 2045” and even beyond.

San Diego is not alone. While the public image may be that booming southwestern cities such as San Diego, Phoenix, Las Vegas, and Albuquerque are on the verge of a climate apocalypse, many experts agree that these metropolitan areas have enough of a water cushion to not only survive, but continue to grow into the surrounding desert for the foreseeable future, even during the worst drought in 1,200 years. Regardless of what the future holds, the search for water savings and more supply has so far been largely successful.

Major cities in the U.S. Southwest have so far been able to decouple the need for more water from growth.

It's a remarkable case of adaptation to climate change that flies under the radar – the result of a quiet revolution in recent years in how these cities source and conserve their water supplies. From replacing water-guzzling lawns with native vegetation, to low-flow plumbing fixtures, to water recycling and desalination, to the shift of agricultural water to cities, governments in arid western regions are pursuing an all-of-the-above strategy.

“When we had severe drought in the 1980s and early 90s we lost 32 percent of our supplies for 13 months,” said Kerl. “It had a devastating impact on our economy. And San Diego said, ‘Never again.’”

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These major cities have reduced their use of water so much through conservation measures, as well as creating new high-tech supplies, that they have so far been able to “decouple” the need for more water from growth. To be sure, the drought is taking a widespread toll on agriculture throughout the region, as well as on cities and towns that lack aggressive conservation measures and have only a single source of water, whether the Colorado River or groundwater. Page, Arizona, a town of roughly 7,500 people, could lose its municipal water supply if water levels in Lake Powell – already at historic lows – drop too far.



Compliance office Michelle Peters tests filtered water at the Carlsbad Desalination Plant, which provides water to San Diego County.

There are also profound ecological effects of taking so much water out of a stressed system. “The [Colorado] river itself is bearing a huge burden for this, in terms of the environmental flows of the river,” said John Fleck, writer-in-residence at the Utton Center at the University of New Mexico School of Law. “Perhaps that’s the biggest cost, because we tend to give that part of the system short shrift. The environmental cost is substantial and probably not going away.” Among other things, low flows and warmer water often lead to the drying of riparian wetlands, endangering fish and wildlife.

San Diego provides perhaps the best example of what cities are doing to make themselves drought-proof to continue business as usual in the face of deep water uncertainty. While such growth comes with serious problems – from traffic gridlock, to air and water pollution, to the destruction of nature – running out of water is not now on that list for most of the larger cities of the West.

Beginning in the 1990s, the San Diego region embarked on one of the most aggressive water conservation plans in the country. An analysis last year showed that the city’s water use dropped from 81.5 billion gallons in 2007 to 57 billion gallons in 2020 – a 30 percent decline. Nine cities surveyed in the Colorado River Basin lowered their water demand in the range of 19 to 48 percent between 2000 and 2015.

**San Diego County has seen a 43 percent decline in
per capita water use.**

San Diego has pursued a multi-pronged approach. The city now requires an array of water-saving technology in new homes, such as low-flow toilets and showerheads.

Perhaps the single biggest piece of the conservation solution is paying homeowners to tear out yards full of Kentucky bluegrass and replace them with far more water-efficient landscaping. The city-run program pays up to \$4 a square foot for as much as 5,000 square feet, and so far has replaced 42 million square feet of water-thirsty lawns.

Melanie Buck of Encinitas, a suburb of San Diego, tore out a grassy lawn and replaced it with a collection of desert plants, including asparagus ferns and several types of cactuses. “It’s quite a lot of maintenance,” moving plants around as they grow, she said. “But our water bill is 50 percent less.”

Phoenix credits a similar program for its precipitous drop in water use. “In the 1970s, 80 percent of single-family homes had lush landscaping,” said Kathryn Sorensen, the former water services director for Phoenix and now research director at the Morrison Institute for Public Policy, a think tank on water issues. “Today that number is 10 percent. It’s been a wholesale change in how people use water.”

The key marker for residential use is gallons per capita per day. Right now, the average number of gallons used by homes that source their water from the San Diego County Water Authority is 135 gallons per capita per day, indoor and out, down from 235 daily gallons per capita in 1990 – a 43 percent decline.



Melanie Buck tends to desert plants in her yard in Encinitas, California.

The new water future is not just about residential conservation – the overall strategy is diversification. “Just like you don’t want to put all of your eggs in one basket in your investment portfolio,” said Kelley Gage, director of water resources for the San Diego County Water Authority, “you shouldn’t do the same with your water portfolio.”

At the time of the 1980s drought, San Diego had just one main source of water: the Metropolitan Water District, which brought Colorado River water to the city – across

242 miles of the Colorado River Aqueduct – to supply 95 percent of the San Diego region’s total. The rest came from local surface water.

Officials embarked on a search for other sources. The agricultural sector uses about 80 percent of the water in the Colorado River, and so it is the place many cities and suburbs have turned to find more.

San Diego’s single biggest source of water, secured two decades ago, is what is known as an ag-to-urban transfer. California was taking more of the Colorado River than its entitlement, and in 2003, as part of an agreement that reduced California’s reliance on the Colorado River, San Diego agreed to fund water-saving irrigation improvements for the Imperial Irrigation District – the single largest user of Colorado River water – and to lease the water that was saved.

San Diego County has made large investments in preventing leaks in the pipes that keep water flowing.

San Diego paid to line with concrete the 82-mile All American Canal – the largest irrigation canal in the U.S. – and the Coachella Canal. Unlined canals lose up to 50 percent or more of their water to seepage, and lining can reduce that loss by 95 percent.

San Diego also paid farmers to switch from flood to drip irrigation. All told, these measures freed up about 280,000 acre-feet of water. (An acre-foot provides two families with a year’s worth of water.) That transfer of savings from agricultural conservation is now the San Diego region’s largest single water source, about 55 percent of its supply. Colorado River water is only 11 percent of the total these days.

The San Diego County Water Authority has made large investments in “asset management” – the pipes that keep the water flowing. The county has 310 miles of large-diameter pipes – some of them up to 10 feet across – which deliver 900 million gallons of water a day. A major leak could spill large volumes of water in a short time, so monitoring the pipes and keeping them in good repair is an important part of conservation. Acoustic listening devices are a growing technology for saving water.

“We can go to a fire hydrant and listen for leaks,” said Martin Coghill, an operations and maintenance manager at the San Diego County Water Authority. If a leak is detected, technicians insert cameras, and in the case of the big pipes, they can lower someone in to inspect and do repairs.



ALSO ON YALE E360

On the water-starved Colorado River, drought is the new normal. [Read more.](#)



This facility in Oceanside, California turns recycled water into potable water by running it through filtration tubes.

The concrete pipes the county uses have a fiber optic cable that runs inside the pipe. If any of the strengthening wires embedded in the concrete snap or otherwise break, the cable is designed to detect that sound and notify headquarters.

Water recycling is also playing an increasing role in water supply, in San Diego and elsewhere. Los Angeles has pledged to recycle all of its wastewater by 2035. Although San Diego's climate is arid, with just 10 or fewer annual inches of precipitation, when it does rain the region captures 90 percent of the runoff in 24 reservoirs and treats that precipitation to drinking water standards.

A growing amount of wastewater is also being recycled to drinking water standards. The city of Oceanside, near San Diego, just opened the first advanced water purification facility in the region that allows so-called "toilet to tap" recycling, using ultrafiltration, reverse osmosis, and advanced oxidation to create 3 million gallons a day, about 20 percent of the city's needs. The city of San Diego plans to have 40 percent of its potable water from similar advanced recycling by 2035.

San Diego County's ace in the hole is North America's largest desalination plant, capable of turning seawater into fresh water in about two hours to create 50 million gallons of potable water a day. The water is so pure that minerals have to be added to improve the taste. The downside is that it's extremely energy intensive to operate, a big part of why it is almost twice as expensive as imported water — \$2,725 for an acre-foot, versus \$1,090 for imported water. Desalination also comes with serious environmental problems, including killing large numbers of fish, fish eggs, larvae, and plankton when the facilities suck in seawater.

A growing amount of sewage wastewater is being recycled to drinking water standards.

Las Vegas, where only 4 inches of rain falls each year, has dramatically upped its conservation game, and Clark County, which includes Las Vegas, has a robust cash-for-grass program that pays more than \$32 a square meter. It also uses a series of hydrophones in its pipes to listen for leaks and repair them quickly. The technique was created by WaterStart, a Nevada-based think tank established by the Desert Research Institute designed to accelerate the development of innovative water technology and help startup companies that work on water conservation technology become viable.

Agriculture is also changing the way it does business. John Burr is a longtime avocado grower in Escondido, the heart of avocado growing in California. As he stood on a bluff above his avocado orchard, with a commanding view of the valley below, he explained how he and his daughter, Kyrsten, have brought precision agriculture to avocado growing.

First, they planted a high-density avocado orchard – 400 trees per acre instead of 100 – which cuts water needs in half. Dendrometers on the trees measure how much water the tree is taking up and how much it is losing to transpiration.

On Sunday mornings, John Burr looks at a spreadsheet on his computer. The California Irrigation Management Information System has 145 weather stations and two satellite systems that tell growers of all types how much water their crops have lost. “It pops out with how many inches of water we need to replace what was lost,” says Kyrsten Burr. “Then we can add precisely that much,” with micro jets that only spray water around the tree. “It’s not only more accurate, it also makes sure we are getting what the plant needs.”



Farmer John Burr next to his avocado orchard, which uses micro jets to spray water around the trees and funnels water directly to the roots.

Use has come down so much in California that Newsha Ajami, director of urban water policy at Stanford's Water in the West program, says continued declines could upset water economics. "Everybody is still talking about investing in infrastructure," she said. But officials need to better understand the demand for water, she says, which will continue to decrease as technology evolves.

For example, she said, California is "moving closer to small-scale recycling." In San Francisco every commercial building over 100,000 square feet has to have an on-site recycling system that turns graywater from sinks and showers, not including sewage, into non-potable water for toilets and irrigation. One building, the Salesforce Tower, treats both graywater and sewage, saving 30,000 gallons a day. And home water recycling units are now in the picture. Water use may drop so far "that utilities could end up with stranded assets or extra capacity that isn't utilized," Ajami said.

How low can it go? "The decoupling can go on for a very long time," says Fleck, especially in the U.S. where governments can afford the capital costs to assure alternative supplies. Las Vegas, for example, spent \$1.5 billion to add a new outlet and massive pumps to assure a water supply from Lake Mead as levels drop. "I don't think we know how long it goes on." The question, he said "is at what point do cities become less livable because we have less green space around us."

With all of these water conservation efforts, experts say that the future of cities like Phoenix, Las Vegas, and San Diego is a sufficiently wet.



MORE ON YALE E360

In era of drought, Phoenix prepares for a future without Colorado River water. [Read more.](#)

"We know it's a desert and we plan accordingly," said Arizona's Kathryn Sorenson. "Phoenix can survive dead pool" – the term for a nearly empty Lake Mead – "for generations.

We have groundwater, we have done a good job of conservation and diversifying our portfolios. Desert cities are the oldest cities, and we will withstand the test of time."

Reporting for this article was supported by a grant from The Water Desk, an initiative based at the University of Colorado Boulder's [Center for Environmental Journalism](#).

Correction, April 29, 2022: *An earlier version of this article incorrectly identified the Desert Research Institute as part of the University of Nevada. The Desert Research Institute is part of the Nevada System of Higher Education but not associated with the University of Nevada.*

Jim Robbins is a veteran journalist based in Helena, Montana. A regular contributor to *Yale Environment 360*, he has written for *The New York Times*, *Conde Nast Traveler* and numerous other publications. His most recent book is *The Wonder of Birds: What they Tell Us about the World, Ourselves and a Better Future*. **Ted Wood** is a photojournalist and multimedia producer based in Boulder, Colorado. He specializes in environmental and conservation stories, particularly in the western United States. His work has appeared in *Vanity Fair*, *Smithsonian*, *Audubon*, and other national and international publications. **MORE →**

News Center (/news)



Mentoring Future Water Experts

Through research and advocacy for her students, engineering professor Jacimari Batista helps address Nevada's natural resources issues.

PEOPLE (/NEWS/TOPIC/1203) | APRIL 26, 2022 | BY LESLIE VENZUELA (/NEWS/AUTHOR/LESLIE-VENZUELA)

When students come under the watchful eye of civil engineering professor Jacimaria Batista (<https://www.unlv.edu/people/jacimaria-batista>), she does more than teach them about the fundamentals of water resources management. She gives them the opportunity to succeed by finding grants to support their education, finding them jobs in labs on campus, and even getting them tutors when they have problems in class.

The students appreciate mentorship that comes with hours in the lab, she said, but the pay helps ensure they can focus on building future careers rather than how to pay their daily expenses.

"It's very different from when I was in school. I was a very poor student when I went to college. I baked cakes to make ends meet," said Batista, the Southwest Gas Professor of Renewable Energy.

Today the stakes are significantly higher when Batista raises funds. Her first grant at UNLV was from the Environmental Protection Agency for \$340,000. She's since brought in more than \$29 million in collaborative research funding and about \$7 million as an individual researcher through what she calls trial and error. She said companies reach out to her now as an expert consultant, but when she was starting out as a student she would go to networking events with potential sponsors and hand out her business cards.

"It's a practice I still encourage with my Ph.D. students and tell them to always do the work and deliver on the project."

Batista earned the 2021 Harry Reid Silver State Research Award

(<https://www.unlv.edu/research/awards-ssra#:~:text=The%20prestigious%20Harry%20Reid%20Silver,award%20carries%20a%20%2410%2C000%20stipend.>)

, which honors faculty whose research is both highly regarded and responsive to the needs of the community and state. She is only the third woman to receive the award since it was established in 2001.

"I felt very proud when I heard about the award, and I was proud of all the students who have helped me since 1998, when I started water research at UNLV."

UNLV has evolved into the educational headwaters for future water managers in Nevada. Batista points to the success story of alumna Camille Calimlim Touton, the current commissioner of the Bureau of Reclamation

(<https://www.unlv.edu/news/article/how-mermaids-desert-launched-career-bureau-reclamation-commissioner>).

"We can contribute to the conservation of water in Nevada by educating water experts," Batista said. She hopes soon to see the launching of a Ph.D. program at UNLV. "It would be ideal for casino environmental managers so they can manage water use responsibly while meeting the water needs of the casinos."

Her research lab works on environmental issues of international, national, and local concerns. Many areas of her research have major impacts on Nevada, including the cleanup of perchlorate contaminant from the Las Vegas Wash, Lake Mead, and the Colorado River; research on the water quality of Lake Mead; and her contribution to research on the nexus between solar and water energy through a \$20 million National Science Foundation grant. Batista also led the effort in cleaning up soil in Henderson that was contaminated by rocket fuel manufactured there during World War II.

But despite all her successes, for Batista, the focus always comes back to the student.

"Everything is about the students, not the faculty," she stressed. "There is no university without the students. When you focus on the students you get a good feeling that you did something right."

Digging Deeper | Water/Wastewater

www.enr.com/articles/53987-pipeline-will-bring-water-to-reno-industrial-park

The Truckee Meadows Water Reclamation Facility in Sparks, Nev., will send treated effluent to an industrial park rather than putting it in the Truckee River, where it would otherwise count against caps on pollutants the treatment plant can release.

Image courtesy of City of Sparks

Pipeline Will Bring Water To Reno Industrial Park

[Doug Puppel](#)

April 26, 2022

A 16-mile water pipeline under construction near Reno, Nev., will help keep pollutants out of the Truckee River and bring water to the one of the world's largest industrial parks, the Tahoe-Reno Industrial Center.

The industrial park and data center company Switch, a park tenant, are building a \$32-million pipeline that will annually deliver 4,000 acre-ft of treated effluent water to the park, a project being managed by Reno-based Farr West Engineering.

Once the water reaches the 15,000-acre park, it will be used for industrial purposes, including to cool servers at the Switch Citadel Campus, where one large data center currently operates. A second is under construction, and a third is in development.

The effort is the first regional public-private partnership in Nevada history to engage the municipalities and agencies across Northern Nevada, something that Gov. Steve Sisolak calls "a model of regional coordination and cooperation."

What's known as the Regional Water Improvement Project also allows officials to defer a \$25-million expansion of existing treatment facilities that treat nitrate-rich effluent water before it goes into the river. Once the pipeline is in place, treated water will be sent instead to the industrial center, where it will be stored in a 2,000 acre-ft reservoir until needed for evaporative cooling.



Q&D Construction installs a 24-in.-dia ductile iron pipeline that will move 4,000 acre-ft of water per year 16 miles to the Tahoe-Reno Industrial Center, where it will help cool servers at Switch data centers, among other uses.

Image by Troy Rasmussen, courtesy of Farr West Engineering

“This is a great reuse of the water,” says Farr West’s Chuck Reno, the engineer of record for the project. “It keeps the river cleaner and provides needed water to help power worldwide industry leaders such as Google, Switch and Tesla,” all of which have operations at the park.

Contractor Q&D Construction began work a year ago and as of mid-April has installed more than 12 miles of 24-in.-dia ductile iron pipeline. Reno says he expects the project to be finished by the end of the year and “moving 10,000 gallons a minute” shortly after that.

He says the pipeline has remained on schedule despite encountering more rock than expected in some areas, which required unplanned blasting. “We utilized trench blasting. As the blast goes off, it would be in a zipper-like pattern for hundreds of feet,” Reno says. “You should see some of the rocks that got pulled out; some were the size of a Volkswagen Bug.”

Another challenge is coordinating related projects taking shape at both ends of the pipeline, making “the development of the reuse system the combination of four large-scale infrastructure projects simultaneously,” Reno says.

At the water treatment plant, SNC Construction is building a \$4.5-million dedicated pump station, scheduled for completion this spring.

At the industrial park, the \$13.3-million reservoir, being built by Patriot Construction, is nearly complete. The \$24.2-million Reservoir Pumping Facility, which will supply water to the industrial park via nearly four miles of 30-in.-dia pipe, began construction early this year, with WW Clyde the construction contractor. Reno says he expects the full system to be operational by early 2023.

Las Vegas seeks more Industrial Sector growth

After Nevada’s unemployment rate reached nearly 30% in April 2020 during the pandemic lockdown, state leaders said it was past time to diversify the hospitality-dependent economy, particularly in the Las Vegas area, home to three-quarters of the state’s population.

With an eye on the success of the Tahoe-Reno Industrial Center in Northern Nevada, a recent multi-jurisdictional federal infrastructure grant application includes a request for funding to develop an industrial park and a new Interstate-15 interchange south of Las Vegas in the

tiny desert town of Sloan.

“This would jump-start a process that’s already underway,” says Tina Quigley, CEO of the local development agency, the Las Vegas Global Economic Alliance. “The trend to onshoring has already created an uptick in interest in the I-15 corridor.”

Taking a regional approach to broadening the economy heartened a top city official in North Las Vegas, which has long courted industrial investment.

“Folks are finally jumping on the bandwagon of diversifying the economy,” says Jared Luke, the city’s director of government affairs and economic development. “We need to have alternative, sustainable employment opportunities outside of gaming and hospitality.”

North Las Vegas is home to distribution centers that hug I-15 as well as the largely undeveloped, city-owned Apex Industrial Park at the far north end of the Las Vegas Valley.

A recent study by the Urban Land Institute says Apex could eventually support 20,000 direct jobs and 56,000 indirect jobs, but development there has been spotty over the past two decades. A proposal to build a \$1-billion, 3-million-sq-ft electric vehicle factory there fizzled, but Luke says planned parallel infrastructure improvements remain on track, including providing additional water to the park.

The city and the regional water utility are both bringing water to the park, where new tenants can use groundwater until the pipelines come online in the next few years.

“We should have a fully redundant water supply for the entire 8,000 developable acres by the end of the decade,” Luke says.

Wins All Around

The water reuse project is frequently described by local officials as wins for the environment, the industrial park, local governments, tribal entities and particularly the Truckee Meadows Water Reclamation Facility in Sparks, Nev.

Stringent water quality regulations for the Truckee River ecosystem require the reclamation plant reach low levels of nutrient pollutants such as nitrogen in its releases. Having water diverted to the industrial park postpones the time when the reclamation plant will have to invest in expensive new technologies to remain below its pollutant cap.

“We have limits,” says plant manager Michael Drinkwater. “We’re not up against them today, but we have a facility plan for the future that helps us manage the quality of the Truckee River.”

He says that unknown factors such as the pace of future growth in the booming Reno-Sparks area prevent him from estimating when those limits could be reached and when a new or expanded plant will be required.

Keeping the treated effluent out of the river also is good news for the cui-ui, an endangered suckerfish found in the river’s final destination 40 miles away at Pyramid Lake.

Drinkwater says as part of the multi-jurisdictional arrangement, the Truckee Meadows Water Authority will make up for water diverted to the pipeline by allowing a similar amount to remain in the river instead of being used by the utility. This water-rights agreement is a benefit to the wildlife since it’s basically exchanging treated water with clean water.

“Truckee River water comes from snowpacks and is pretty damn clean,” Drinkwater says. “The beauty of the agreement is the return-flow management agreement. It is locked in place. That water has to be used to offset that effluent.”

“You should see some of the rocks that got pulled out; some were the size of a Volkswagen Bug.”

— Chuck Reno, Engineer of Record, Farr West



Concrete forms mark the start of construction of a half-million-gallon steel tank at the highest point along the pipeline, about 3.5 miles east of Sparks, Nev.
Image by Troy Rasmussen, courtesy of Farr West Engineering

The water reuse system also allows development to continue at the industrial park, where “several million square feet” are under construction, according to Kris Thompson, project manager for the park that is home to the Tesla Gigafactory.

Thompson says several projects are in development, including “Nanotech Energy’s 500-acre campus, now in construction, where they are building a number of facilities for building graphene-based energy storage and for R&D.” Los Angeles-based Nanotech Energy announced plans last year to develop several buildings at the center associated with its production of non-flammable, graphene-based batteries.

“This is one of many clean-tech companies moving to the region,” says Mike Kazmierski, president and CEO of the Economic Development Authority of Western Nevada, the development agency that helped attract Nanotech Energy. “We are seeing continued expansion in this sector, not just in the industrial park but throughout Northern Nevada.”

TMWA: Water supply looking good heading into summer

By [ThisIsReno](#) April 26, 2022

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Truckee Meadows Water Authority officials said bleak news about the West's ongoing drought does not impact the Truckee Meadows water supply.

That's because of a bank of reservoirs that supply the region's water. Even during the severe drought years around 2015, when [TMWA tapped into those reservoirs](#) for water reserves, the region's supply of water was sufficient to meet demands.

"We're actually in better shape this year than we were last year," said TMWA's Andy Gebhardt. "We didn't have a miracle March but we've had an awesome April. We don't worry about drought; we worry about water supply."

The region has seen three dry years in a row but, Gebhardt said, that will not impact water supplies.

"We've had three great years in a row, and we're in better shape this year than we were last year in that system," he added.

Officials stressed, however, that people should still conserve water.

"We're in a desert, [so] we're always in a drought," he added.

Reno area water users only use about 3% on average of Truckee River water, officials said.

SOURCE: TMWA

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Smart growth, not sprawl, is the smart solution for Nevada



Linda Stout April 27th, 2022 at 2:00 AM

Opinion

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A distribution center under construction in North Las Vegas on Wednesday, March 29, 2017. In cities, heat is amplified by manmade materials. (Jeff Scheid/The Nevada Independent)



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AD AURIS

Las Vegas needs an alternative to the traditional “pave paradise and put up a parking lot” approach to growth. One year ago, legislators supported the Southern Nevada Economic Development and Conservation Act ([SNEDCA](#)). Stalled for now, it packs an impressive array of wilderness protections. Sadly, the bill would potentially extend growth boundaries by about 30,000 to 40,000 acres and bulldoze vast swaths of desert habitat to build single family homes or commercial hubs. The solution to Las Vegas’ growing pains are sustainable urban planning and rapid decarbonization, not more suburbs and parking lots. In the age of climate change, our best options are [smart growth](#) and infill development.

Sprawling young cities like Las Vegas were designed for cars. Worsening droughts, water shortages, wildfires, and heatwaves are directly fueled by tailpipe exhaust and electricity generation. SNEDCA reinforces patterns of car dependence and sprawl, jeopardizing Nevada’s mandated climate goals to

reduce [emissions](#) 28% below 2005 levels by 2025, 45% by 2030, and net zero by 2050.

Considering the rising cost of climate disasters, this proposed bill is unlikely to deliver long-term economic stability. From 2010 to 2020, Nevada experienced [12 extreme weather events](#) costing the state \$1 billion in damages. That price tag will continue to rise unless we reduce emissions. By meeting

our targets, we would [save](#) between \$172 and \$786 million in economic damages by 2030 and up to \$4 billion by 2050.

Climate disasters do not impact communities equally. According to the Federal Emergency Management Agency ([FEMA](#)), Las Vegas is among the five fastest growing cities within counties facing high to very-high risk of natural disasters. While excessive heat is not officially considered a natural disaster, it is a threat multiplier. The RTC's Extreme Heat Vulnerability Project [fact sheet](#) shows there were 568 heat-related deaths in Southern Nevada between 2009 and 2018.

As the number of excessive heat days increase, so do the serious health threats. Sprawl and rapid urbanization widen heat risk disparities between people in urban and suburban neighborhoods. According to the 2021 research report by [Climate Central](#) on the urban heat island effect, Las Vegas' average downtown temperatures are 5 degrees higher than surrounding areas. Peak afternoon temperatures are even hotter, 15 to 20 degrees higher than suburbs with more trees and less pavement. Concrete and asphalt surfaces absorb and radiate heat, and lack of green spaces prevents cooling.

From the outset, our suburbs were designed with policies of exclusionary housing and redlining, as experienced by residents of North Las Vegas and Las Vegas' East and West side. Sprawl is fundamentally rooted in social inequity and racial strife. People impacted most by discriminatory housing practices often have the fewest resources to deal with heatwaves. On any given day, more than 5,000 Southern Nevadans are [unhoused](#) and many are turned away when shelters reach maximum capacity. The housing crisis has pushed people out of their homes and closed doors to affordable housing near places of employment and public transit.

Zoning laws perpetuate white flight and urban blight by restricting new neighborhoods to single family homes instead of mixed use development. Roughly [62%](#) of Las Vegas in 2019 was zoned for low density, single family homes, according to Marco Velotta, senior management analyst at the Las Vegas Planning Department. To reshape zoning trends, in 2021 Las Vegas adopted a state-mandated [2050 Master Plan](#) that promotes mixed-use and transit-oriented development. Up-zoning from low to high density, helps correct past exclusionary practices by allowing development of taller and denser buildings, especially in suburbs.

Infill development prioritizes equitable infrastructure, affordable housing, accessible public transit, and reduced car dependence. Fewer cars and shorter trips mean cleaner air and healthier living. Smart, walkable communities prioritize car alternatives like cycling, walking, and public transit. Existing road infrastructure is readily adaptable for expanded transit routes servicing downtown, UNLV, CSN, and the airport.

Phasing out high emission vehicles and incentivizing a rapid deployment of energy efficient public transit, trucking, and light rail will be transformative. Southern Nevada's Regional Transportation Commission (RTC) is aiming for 100% zero emission buses by 2035 and is awaiting their 2022 arrival of three zero-emission [hydrogen fuel cell electric buses](#), the first in the fleet. Recent [federal funding](#) will

help RTC improve existing facilities, develop dedicated transit lanes, and expand their popular bike share program.

Effective climate policy is proactive, not reactive. It improves public health and quality of life while leaving Nevada's wilderness intact. To reverse decades of sprawl, reduce emissions, and save money, Nevada needs zoning regulations and public infrastructure investments that favor high density and mixed use land development along with well designed public transit.

Prioritizing collaborative, community discourse by consulting with urban planners, low-income-housing advocates, and environmental justice advocates is essential to fair and just policymaking. Adapting to a warming world means changing habits and policies for how we live and grow. Smart growth, not sprawl, is the smart solution for Nevada.

Linda Stout is the parent of four young adults and a longtime Las Vegas resident. She is a retired educator, artist and climate activist.

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ENVIRONMENT

TMWA: Water supply looking good heading into summer

By ThisIsReno | April 26, 2022

Truckee Meadows Water Authority officials said bleak news about the West's ongoing drought not impact the Truckee Meadows water supply.

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SOURCE: TMWA



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Fly fishing on the Truckee River. (David Calvert/The Nevada Independent)

Indy Environment: Despite third dry year, water managers say Reno-Sparks supply is prepared for drought

Good morning, and welcome to the Indy Environment newsletter.

As always, we want to hear from readers. Let us know what you're seeing on the ground and how policies are affecting you. Email me with any tips at daniel@thenvindy.com.

If you received this from a friend, [sign-up here](#) to receive it in your inbox.

Three back-to-back dry years have crunched water supplies for many cities and farms across Nevada and throughout the West. The past two decades, according to a report released earlier this year, represent the most extreme drought in the last 1,200 years. As the West continues to warm, officials expect more uncertainty, driven largely by changes in precipitation and aridity.

water update last week: we have analyzed the numbers, and we are prepared for prolonged drought.

“We’re actually ending up having a better year than last year, which all things considered, is a good place to be,” Bill Hauck, a senior hydrologist for the agency, said in an interview this week.

Even in Nevada, the driest state in the nation, the situation varies from watershed to watershed, region to region. Although there are similarities — often less water to go around than there are rights — the Truckee River is different from the Colorado River is different from the Walker River is different from the Humboldt River, when it comes to the particulars.

Reno, Sparks and Washoe County (all served by the water authority) are located toward the end of the Truckee River, and they divert water that largely originated as snowpack in the mountains above Lake Tahoe, many miles upstream. The region is not unfamiliar with the uncertainties that come with relying on mountain snowpack, Hauck said, noting historic swings between dry and wet years. And he said the agency has worked to prepare its supply to withstand those swings.

In large part, the agency has done that through storage in upstream reservoirs. Hauck said the Truckee River Operating Agreement, which went into effect in 2015, gave the water authority more flexibility to store water — and build up drought reserves — in reservoirs. In addition, he said the municipal utility has a diversified portfolio, with rights to pump groundwater.

“We are very confident that we have water supplies to meet projected demand, decades into the future,” Hauck said. “We are really in a unique position here with being situated on the Eastern Sierra [with] all the different sources of supply we have on hand to meet customer demand.”

The snowpack this year has mirrored the weather whiplash that the region often sees: December started out strong, what Hauck called a “banner month.” Then came the start of 2022, when January, February and March registered as the driest on record since snow-monitoring equipment was first installed in the 1980s. Over the last few weeks, what some have called an “awesome April,” the snowpack has improved slightly. But the end of the year total still [came in below average](#).

“[April] really improved the outlook for us,” Hauck said. “We were looking at normal Truckee River flows only through the first or second week of September. But now this is going to push things out into October,” which will help the agency meet peak customer demand in the summer.

The water agency serves about 440,000 people in a region that is experiencing rapid growth.

Hauck said the water authority has factored growth into its planning efforts, noting that the local area’s per-capita demand has actually decreased in recent years, mirroring trends across much of the West (municipalities have seen water use drop as appliances have grown more efficient and water agencies have put in place scheduling for outdoor irrigation). Still, per-capita demand sits at about 175 gallons per customer per day, which is higher than other Western cities.

Kyle Roerink, who directs the Great Basin Water Network, said Western water utilities should be considering a broad range of tools to address the effects of a changing climate. Utilities, he said, should look at their resource plans, infrastructure and how to lower water consumption.

Roerink argued that the Reno-Sparks water provider could do more to encourage conservation, similar to some of the measures taken in Southern Nevada, where water officials have encouraged ordinance changes and [required the removal of purely decorative turf.](#)

“We're not seeing anything like what you're seeing in Southern Nevada, which is concerning, especially when you have population growth outpacing the estimates that they have used in past analyses,” said Roerink, whose group is currently looking at Truckee River water use.

Hauck noted that the water authority has irrigation schedules, as outdoor water use is one of the most significant drivers of water consumption, especially during the summer months. Although the agency is watching what other water providers are doing across the West, Hauck said he believes customers are successfully decreasing their per-capita water use.

As for why the agency has not adopted more stringent conservation measures, Hauck said that structurally, Reno-Sparks is in a different position than Las Vegas, which recycles nearly all of the water that it does not use and can effectively rededicate conserved water to development.

“We cannot reuse it,” he said, citing the different laws and rules in place that govern the Truckee River. “We can’t take that bucket of water that we save from ‘cash for grass’ programs and turn around and use it to serve new subdivisions like Las Vegas can. We feel that customers are already doing a fantastic job and we’re just not there yet... We’re not in a dire situation.”

Still, the agency acknowledged the uncertainties that climate change could bring. Hauck said the water authority has included climate science with multiple future emission scenarios in its [long-term resource plan](#), which has a 20-year planning horizon and is updated every five years.

But the uncertainties are not only about the quantity of water. They are also tied to the timing of when and how water falls as precipitation. In the Lake Tahoe Basin, research suggests that with a warming climate more water will fall as rain, rather than snow, Hauck noted. That’s an issue, and one that creates uncertainty, because snow acts as a natural reservoir to store water during the season.

Today’s storage reservoirs, however, were not typically built or operated to capture rain. Hauck said the water authority is studying the issue through a federal grant that it received in 2019.

The water authority, he said, is the “lead agency to study and develop ways to reoperate federally owned and operated reservoirs upstream to address future potential impacts of climate change.”

Here's what else I'm watching this week:



Dixie Valley is known as a place of healing for the Fallon Paiute and Shoshone Tribe near Fallon, Nevada on Friday Jan. 21, 2022. (Tim Lenard/The Nevada Independent)

New realities for Colorado River water users:

- The seven basin states that rely on the Colorado River [wrote a letter](#) to the Department of Interior on Friday, **supporting an emergency action** to keep water in Lake Powell.
- I wrote this week about Las Vegas' decision to turn on the pumps for its third intake, infrastructure designed to **allow Southern Nevada to continue retrieving Colorado River water**, even when the reservoir [reaches extremely low levels](#) and other states can no longer access their water. I'm planning to write a little more about what this means in the coming days (Twitter thread to come). But if you're interested in learning more about Las Vegas' water supply — the myths and realities — [check out this conversation](#) that I recorded with the producers at *CityCast Las Vegas*, a new (and excellent!) podcast.
- Southern California, which imports a portion of its water supply from the Colorado River, imposed unprecedented cuts to water use. **“Southern California officials on Tuesday took the unprecedented step of declaring a water shortage emergency** and ordering outdoor usage be restricted to just one day a week for about 6 million people in parts of Los Angeles, Ventura and San Bernardino counties,” the [L.A. Times' Ian James writes](#).
- An important perspective on the Colorado River shortage from [Audubon's Jennifer Pitt](#). She writes: “Moving water does not address the fundamental challenge in the Colorado River Basin and does not offer any real certainty for water users or the river itself in any corner of the basin. **Colorado River water demands exceed supplies.**”
- **A nature-based solution for quagga mussels?** The answers could have something to do with their DNA. [A fascinating story](#) from *The Arizona Republic's*

[For her last story](#) with *The Nevada Independent*, Jazmin Orozco Rodriguez wrote about the Fallon Paiute Shoshone Tribe's efforts to designate a national monument in Dixie Valley, an area under increasing pressure from development and a proposed military base expansion. (P.S. - [Jazmin is now working for Kaiser Health News](#) in Elko. Send her your pitches and ideas!)

"The Environmental Protection Agency for the first time is **proposing a measure that would force four Western states to reduce their harmful emissions** because of the impact they're having on air quality in neighboring states — including Colorado," [Noelle Phillips reported in The Denver Post](#) earlier this week. **"If approved, Utah, Wyoming and Nevada would be required to reduce greenhouse gas emissions from power plants and industrial manufacturing sites,** while California would need to cut emissions from certain industries."

Gov. Steve Sisolak's Office of Energy announced **tax breaks approved in 2021 for renewable energy companies.** The five companies, according to a press release, are expected to invest roughly \$1.6 billion dollars into the economy, much of that coming from a single project, Gemini Solar, in Southern Nevada. Here is an excerpt from the announcement last week:

- *"Dry Lake Solar (Clark County) was approved in January 2021 to receive \$36,478,866 in abatements and will invest an anticipated \$343,349,803 in Nevada, provide 195 construction jobs and two operational jobs.*
- *Gemini Solar (Clark County) was approved in February 2021 to receive \$121,088,850 in abatements and will invest an anticipated \$1,011,884,025 in Nevada, provide 422 construction jobs and six operational jobs.*
- *Citadel Solar (Storey County) was approved in May 2021 to receive \$13,039,568 in abatements and will invest an anticipated \$61,251,812 in Nevada, provide 96 construction jobs and six operational jobs.*
- *North Valley Power Plant (Washoe County) was approved in October 2021 to receive \$10,934,530 in abatements and will invest an anticipated \$123,974,682 in Nevada, provide 38 construction jobs and 13 operational jobs.*
- *Boulder Flats Solar (Clark County) was approved in November 2021 to receive \$7,725,848 in abatements and will invest an anticipated \$42,685,048 in Nevada, provide 102 construction jobs and two operational jobs."*

"It's the only way to keep me from passing out." [Worth reading this op-ed piece](#) about the effects of extreme heat on immigrant communities by Make the Road Nevada's Jose Rivera.

Something to watch: "The battery storage company Yotta Energy raised an additional \$3.5 million in Series A finance and announced a nearly \$2 million Defense Department award for a microgrid project at [the Nellis Air Force Base]," [Axios's Ben Geman reported yesterday.](#)

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GOVERNMENT

Water purification facility coming

By Carly Sauvageau | April 28, 2022

Overlooking the flooded Swan Lake. Image: Bob Conrad



Advertisement

Reno City Council members on Wednesday voted to move forward with construction of a water purification facility east of Reno-Stead Airport. The facility would pump water from Swan La about four miles away, to be made into drinkable water for north Reno water users.

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Derby Dam fish screen changes Truckee River future



()

By Rob Sabo Special to the NNBW

Sunday, May 1, 2022 (/news/2022/may/01/derby-dam-fish-screen-changes-truckee-river-future/)

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Back in the early 1900s, the first project for the newly formed U.S. Reclamation Service – now the U.S. Bureau of Reclamation – was construction of the Derby Dam on the Truckee River. As part of the sweeping Newlands Project to provide irrigation for arid land in Churchill, Lyon, Storey and Washoe counties, the diversion dam 20 miles east of Reno was completed in 1905. It sends water into the Truckee Canal, which runs 32 miles and provides water to Fernley and Hazen before emptying into the Carson River. Fallon's water, drawn from an aquifer beneath the Lahontan Valley, is refreshed from this source as well.

The 31-foot high, 1,300-foot-long Derby Dam has long been a source of water-rights controversy

Homeless camp leaves piles of trash



By [Ed Pearce](#)
Published: May. 3, 2022 at 6:55 PM PDT
[f](#) [✉](#) [t](#) [p](#) [in](#)

SPARKS, Nev. (KOLO) - Deborah Plant had a view many would envy. From the third floor window of her condominium she could see the whole valley and a natural area just across McCarran Boulevard.

Then four encampments of homeless moved in and the trash began piling up.

She called the city. They sent two officers from their HOPES team offering services.

The homeless they encountered were ‘services resistant.’ They wanted no help. After a couple of months they moved on.

Deborah got a close up look at what they left. Mountains of trash. Some of it the kind of items often used and discarded by homeless campers. Some of it not. There’s an electronic keyboard for instance. “You look at this stuff. Much of it are items that once belonged to someone else. This isn’t the kind of stuff the homeless carry around with them.”

The trash is beginning to scatter with the wind, but there are piles of it, one for each camp and other evidence of their occupation.

“Somebody has a poop bucket over there with their name on it, says that is their poop. Seriously?” And amid the trash, some hypodermic needles.

The Orr Ditch runs through this property to the Truckee River. We’re told the trash poses no threat to city water supplies, but the same people say it doesn’t belong in the river either.

“All this needs to go,” says Plant. “It needs to be out of here. It’s just going to keep blowing down into the water way and into somebody’s yard. I am angry about the homeless situation. This is a nice area. Those homes over there, they’re nice homes. The people there are just trying to live too. and now they have all this in their backyard. They can’t possibly feel safe coming in and out of their homes.”

This is private property. The clean up is the owner’s responsibility. Who that is and when they might tackle the job is, at the moment, unclear.

In the meantime, a new camp is emerging just a block to the east.

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Irrigation pivots on February, 25, 2020. (David Calvert/The Nevada Independent)

Indy Environment: Warming is making the West thirstier, researchers say. And it's stressing water supplies.

Good morning, and welcome to the Indy Environment newsletter.

As always, we want to hear from readers. Let us know what you're seeing on the ground and how policies are affecting you. Email me with any tips at daniel@thenvindy.com

If you received this from a friend, [sign-up here](#) to receive it in your inbox.

Over the past four decades, the Western U.S. has demanded more water.

And the landscapes — the valleys and mountains and lakes — that make up the region's arid ecosystems have borne the impacts of increasing water needs in more ways than one. It's not only fast-growing cities, searching for faraway supplies, that have affected these landscapes.

and it is an active area of study with major implications for water supply and increased fire risk.

[In a new study released last month](#), researchers found that evaporative demand has increased over the last four decades, with temperatures playing a dominant role. In particular, the research documented significant increases around the Rio Grande and the Lower Colorado River basins, two drought-stressed areas. The research notes that more evaporative demand in arid regions has been associated with drought, wildfire severity, streamflow loss and stress on plant habitats.

For instance, increased evaporative demand can mean that irrigated crops might require more water than they needed in the past — a trend that places upward pressures on water supply.

Christine Albano, the lead author of the study and an assistant research professor at the Desert Research Institute, said the implications of increased evaporative demand are system-wide.

“An increase in evaporative demand is also affecting our snowpack,” Albano said in an interview last week. “It’s causing trees and plants to use more water if it’s available. It’s causing greater evaporation of water from our reservoirs. It’s sort of a double-whammy because it’s affecting demand — [the atmosphere needs] more water and yet we have less supply at the same time.”

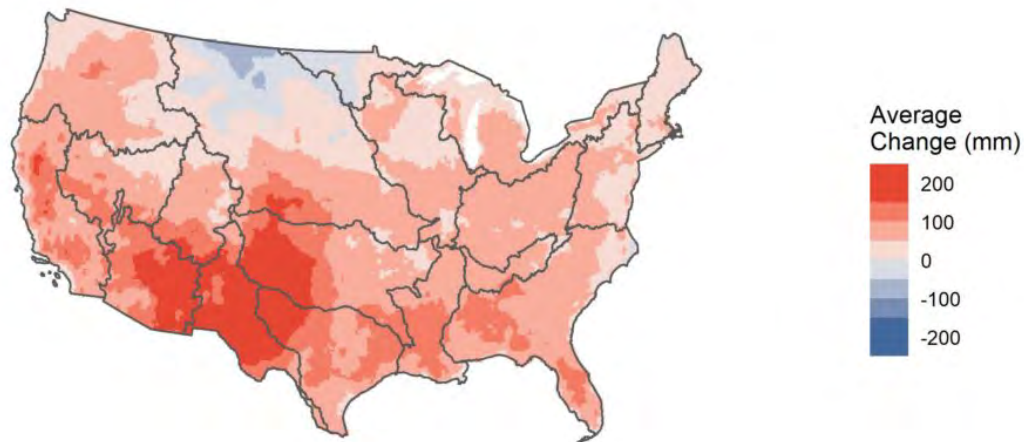
The research, published in the *The Journal of Hydrometeorology*, is significant because it looks at five datasets and works to determine the different drivers contributing to evaporative demand.

Although temperature is a primary driver, other factors contribute to atmospheric thirst. The paper attributed roughly 26 percent of the increase to humidity, 10 percent to wind speed and 8 percent to solar radiation. Wind, for example, affects evaporative demand in the same way that laundry might dry faster on a windy day, rather than on a day when it is just warm, Albano said.

“We found that atmospheric thirst is consistently emerging outside the range experienced in the late twentieth century in some western regions with 57% of the change driven by temperature,” the researchers wrote. “Importantly, we demonstrate that increased atmospheric thirst has already become a persistent forcing of western landscapes and water supplies toward drought and will be an essential consideration for land and water management planning going forward.”

The fact that temperature is such a dominant driver is significant amid continued warming due to climate change. Past research, from climate scientists in Nevada and California, [has modeled the ways](#) evaporative demand is likely to increase multiyear droughts and fire risk.

[In a press release](#), John Abatzoglou, a co-author and UC Merced researcher, said the research “shows the dominant role that warming has played on the increasing evaporative demand and foreshadows the increased water stressors the West faces with continued warming.”



A map showing changes in evaporative demand, displayed as evapotranspiration (mm), between 1980 and 2020 across the United States. (Christine Albano/Desert Research Institute)

Here's what else I'm watching this week:

It's official: Federal water managers approved plans to keep more water in Lake Powell, taking unprecedented and “extraordinary actions” to stabilize the critical Colorado River reservoir. The AP's Sam Metz [has more about what it all means](#). As KUNC's Alex Hager [reported](#), the overall message coming from top federal officials is encapsulated in this quote from Assistant Interior Secretary Tanya Trujillo: “Now is the time to do more. We do not have time to waste.” **It recognizes that the Lake Powell actions are temporary, meant to prevent an immediate crisis. But the Colorado River needs long-term solutions to address aridification.**

- [The New York Times' Henry Fountain](#) on Las Vegas and nonfunctional turf removal.
- **This is a fascinating article** by *The Salt Lake Tribune's* Zac Podmore on [how sediment is moving into Lake Powell](#). “It feels like a dying reservoir,” one former river guide said.
- **A body on the shores of a dwindling Lake Mead:** In a gruesome development with the ongoing decline of Lake Mead, boaters discovered a body near Hemenway Harbor this weekend, [as was first reported](#) by 8 News Now's David Charns. And there could be more to come, *The New York Times's* Eduardo Medina [reported](#): “The drop in the lake's water level could result in other bodies being found at the lake, Lieutenant Spencer said. Rangers with the National Park Service find one or two bodies at Lake Mead every year, he said, **‘so it's not uncommon to work a homicide out at the lake.’”**

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Resources, to serve on the Nuclear Regulatory Commission, [The Review-Journal's Gary Martin reported](#). Crowell served at the Department of Energy from 2010 to 2016 before Gov. Brian Sandoval appointed him to lead the state's natural resource agency. The nomination must be confirmed by the U.S. Senate. The Nuclear Regulatory Commission oversaw licensing hearings for the Yucca Mountain waste repository, a process that ended during the Obama administration.

The Reno Philharmonic is performing a piece centered on climate change.

"This is a project that sheds both light and hope on one of the most urgent issues of our time: climate change," Reno Phil Music Director Laura Jackson [told the Reno Gazette Journal's Jenny Kane last week](#). "There is no question that we are in an era where human impact has reached every corner of the earth, and we can no longer take for granted the health and abundance of the natural resources we hold dear." There's [more information on the Reno Phil's website](#).

Federal land managers begin review of a closely-watched transmission project across Nevada. *Pahrump Valley Times'* Daria Sokolova [has more on it and how to submit comments](#).

A reminder that climate change is a national and global problem: I've been thinking a lot about this watching the news of a [severe heat wave across South Asia](#), threatening millions of people, and the thousands of people, threatened by wildfire, who are [evacuated in New Mexico](#)

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America's love affair with the lawn is getting messy



By **JULIA RUBIN** (Associated Press)

WHITE PLAINS, N.Y. May 6, 2022 6:40 a.m.

For generations, the neat, green lawn has been a classic part of American yards

LeighAnn Ferrara is transforming her small suburban yard from grass bordered by a few shrubs into an anti-lawn — a patchwork of flower beds, vegetables and fruit trees.

It didn't happen all at once, says the mother of two young kids. “We started smothering small sections of the lawn each year with cardboard and mulch and planting them, and by now the front yard is probably three-quarters planting beds,” she says. “Every year we do more.”

Her perennials and [native plants require less upkeep and water](#) than turf grass does. And she doesn't need herbicides or pesticides — she's not aiming for emerald perfection.

For generations, the lawn — that neat, green, weed-less carpet of grass — has dominated American yards. It still does. But a surge of gardeners, landscapers and homeowners worried about the environment now see it as an anachronism, even a threat.

Like Ferrara, they're chipping away at it.

“America is unique in its fixation on the monoculture lawn,” says Dennis Liu, vice president of education at the E.O. Wilson Biodiversity Foundation in Durham, North Carolina. “Our English inheritance is our own little tidy green space.”



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A rowhouse in New Rochelle, N.Y., has a front yard full of flowers and other plants, while neighboring houses have lawns of grass. Many people are converting parts of their lawns into planting beds for a variety of flowers, perennials and edible plants.

Julia Rubin / AP

Now, [drought](#), [crashing insect populations](#) and other environmental problems are highlighting — in different ways, in different places — the need [for more kinds of plants](#) in spaces large and small.

Some people are experimenting with more “eco-friendly” lawns, seed mixes you can buy with native grasses that aren’t as thirsty or finicky. Others are mowing less and tolerating



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It all leads to a more relaxed, wilder-looking yard.

“The more you can make your little piece that you’re a steward of go with nature’s flow, the better off everyone is,” says Liu.

In [states with water shortages](#), many homeowners long ago swapped out turf grass for less-thirsty options, including succulents and gravel.

Elsewhere, the pandemic has speeded the trend away from lawns. [Gardening exploded as a hobby](#), and many non-gardeners spent more time at home, paying more attention to the natural world around them.

Moving away from grass

Municipalities across the country are handing out lawn signs with “healthy yard” bragging rights to homeowners who forgo lawn chemicals or mow less often. Many towns are slapping regulations on common tools like gas-powered leaf blowers and mowers, mostly because of noise.

“For people interested in gardening, a lot have come to the realization it can’t just be ornamental anymore. It has to serve some other purpose, whether food, habitat ... pack in as many uses as you can,” says Alicia Holloway, a University of Georgia Extension agent in Barrow County. “It’s a shift in thought, in aesthetics.”

Monrovia, a major grower of plants for nurseries and other outlets, has seen lots of interest in a “Garden of Abundance” trend — a more “alive-looking” yard with a variety of plants, says company trend watcher Katie Tamony. She says it’s a way of thinking about your yard “as not just being yours, but part of a more beautiful, larger world that we’re trying to create.”

Plants that attract pollinators were the category most sought-after in a survey of Monrovia’s customers, she said.

And yet. The lawn isn’t disappearing anytime soon.



The look of a lawn

Many homeowners associations still have rules about keeping yards manicured. And lawn services tend to be geared toward maintaining grassy expanses.

Andrew Bray, vice president of government relations for the National Association of Landscape Professionals, a trade group, says lawns are still the mainstream choice. People want neat outdoor spaces for relaxing, playing and entertaining.

He says his group supports the goal of making lawn care more environmentally friendly, but believes some recent ordinances, like those against gas-powered blowers and mowers, have created a “fraught political environment.” He says electric alternatives to those tools aren’t feasible yet for the big lawns that professionals handle.

The landscapers’ trade group set up a new public platform this year, Voices for Healthy Green Spaces, to present its side of things. “Whether people want to have a large yard, plant a forest of trees in their backyard, or want a meadow and unstructured plantings,” all are green options, he said.

Those concerned that grass lawns fall short in helping pollinators and other species face another problem. “A lot of people don’t want bees — there’s fear of nature,” says Holloway, the Georgia extension agent.. “I think that’s changing, but it still has a long way to go.”

Replacing grass also takes patience. “One of the best parts of my job is site visits. I go to backyards that people have been working on for 20, 30 years, and it’s helped me get over the mindset that everything has to be done all at once. It really takes time” to create a yard that’s got plantings, rather than just lawn, Holloway says.

And it’s hard to overcome tradition and neighborhood expectations. A lawn “looks tidy, and it’s easy to keep doing what you’re doing,” Liu says. But “once you’ve established the new equilibrium, it’s easier, it pays all these benefits.”

Some neighbors might see a yard without a lawn “and think, there’s the crazy person,” he says. “But a lot of people will just think it’s so cool.”



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The housing crisis remains a top concern for Oregon voters

DHM Research conducted a poll for OPB focused on issues potential Oregon voters are most concerned about. When 600 people were asked to indicate what they see as the most important problem facing Oregon today, 29% of respondents statewide answered homelessness.

May 4, 2022

Tags: [Nature](#)



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Officials worry Southern California won't have enough water to get through summer without unprecedented cuts

By [Stephanie Elam](#), CNN

🕒 Updated 4:54 PM ET, Wed May 4, 2022

The country's second largest reservoir is drying up, this is why 02:44

(CNN) — As Southern Californians brace for unprecedented [water restrictions](#), officials worry some communities won't have enough water to get through the summer -- at least not without residents and businesses significantly [cutting back on their usage](#).

The state's top natural resources officer told CNN that California's water emergency clearly shows the climate crisis in action.

"Some would consider this a wake-up call. I disagree," Wade Crowfoot, California's secretary for natural resources, told CNN. "The alarm's already gone off."

The West's megadrought

[Why the Great American Lawn is terrible](#) for the West's water crisis

Lake Powell officials face an impossible choice in the West's megadrought: [Water or electricity](#)

Scientists reported earlier this year that the West's current megadrought is the [worst in at least 1,200 years](#) and that the human-caused climate crisis has made it 72% worse.

For the past two decades, weather in the West has been characterized by extended periods of drought with [fleeting bursts of wintertime precipitation](#) which have never been enough to overcome the region's severe water shortage.

In California, snow typically builds up in the Sierra Nevada throughout the winter, storing precious water that gradually



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Experts say [the term 'drought' may be insufficient](#) to capture what is happening in the West

The Colorado River irrigates farms, powers electric grids and provides drinking water for 40 million people. [As its supply dwindles, a crisis looms.](#)

the state's water, according to the Department of Water Resources.

But by April, at the end of this year's wet season, California's snowpack [was only 4% of normal](#). By May there was no snow at all.

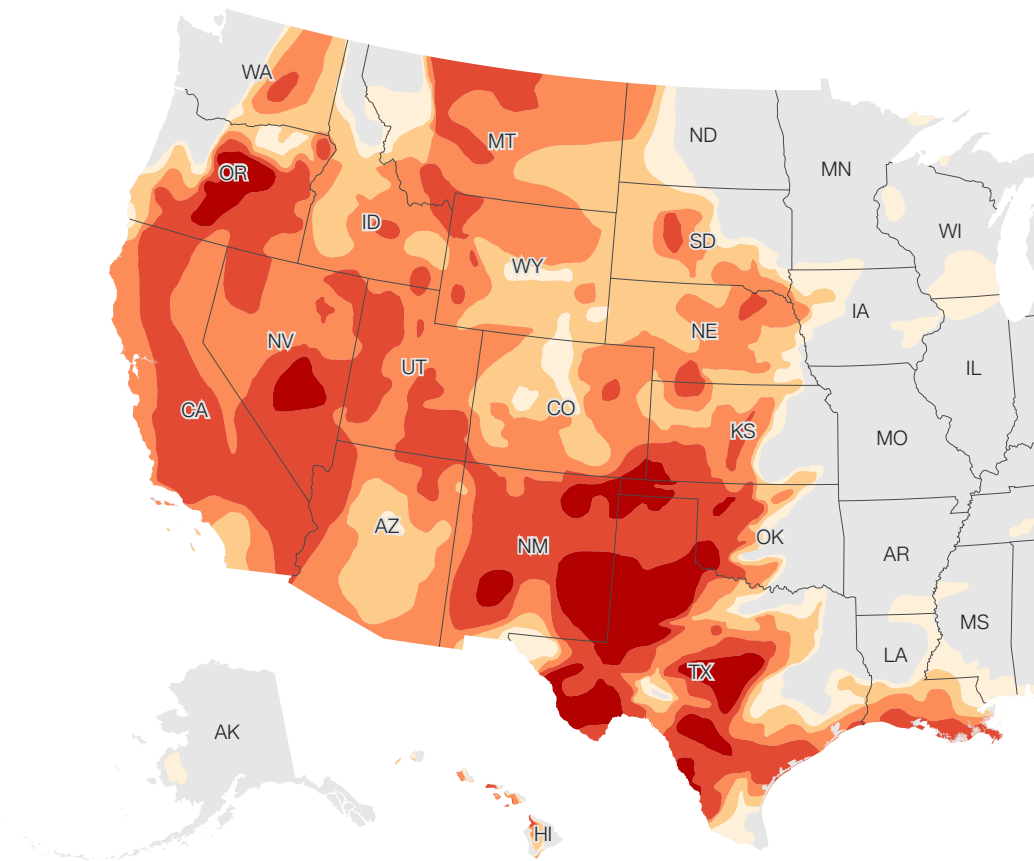
"Climate change is here and it's been here across the American West," Crowfoot told CNN. "Climate change is accelerating in alarming ways and faster than scientists predicted even 10 or 20 years ago and that means we have to move very quickly as governments, as water agencies, as communities."

Tracking drought across the US

Here's where drought conditions are most severe across the country.

Abnormally dry
Severe drought
Exceptional drought

Moderate drought
Extreme drought



Data is reported weekly. Map updated Thursday, May 12 and represents analysis as of Tuesday, May 10.

In light of the foreseen shortage, Metropolitan, for the first time in its nearly 100-year history, is mandating that restrictions be put in place for parts of Los Angeles, San Bernardino and Ventura counties that receive water through the State Water Project, which pipes water down from the Northern Sierra Nevada Mountains and the Sacramento-San Joaquin River Delta. They have two options: they can either implement volumetric limitations, or demand customers reduce their outdoor watering to one day a week by June 1.

At the same time, the water district is asking all Southern Californians to cut their usage by 35%.

"The action has to happen now because we can't wait until the middle of the summer," Adel Hagekhalil, the general manager of the Metropolitan Water District of Southern California, told CNN. "It'll be too late, and I don't want anybody to turn on the faucet and not have water."

Cachuma Lake on California's Central Coast releases water downstream to recharge groundwater for agriculture interests and communities in the Santa Ynez Valley.

Targeting outdoor watering could have a large impact on water conservation, officials say. If not enough water is saved, Metropolitan Water District says it is prepared to ban all outdoor watering on September 1.

"If you look at water usage right now, 30 to 70% of the water that is consumed in the home or in a business or an institution is mainly in the landscaping outdoors," Hagekhalil said. "We need to right now conserve every drop, re-prioritize how we use water to make sure it's only for basic health services, our livelihood, our indoor usage -- and not watering our lawn."

The Metropolitan Water District also gets 25% of its water from the Colorado River, where the West's megadrought is starkly visible. The river system supplies water to some 40



Related Article: Body in barrel discovered at Lake Mead is likely a gunshot murder victim from decades ago, police say

lower than they've ever been in both Lake Powell and Lake Mead since the time that they filled."

The federal government announced Tuesday it is taking unprecedented, emergency steps to [help boost water levels at Lake Powell](#), and buy the surrounding communities more time to plan for the very real possibility the reservoir, the country's second-largest, will soon run out of water.

At Lake Mead, the waterline has dropped so low in the lake that it has [exposed a water intake valve](#) that had been in service since 1971. The Southern Nevada Water Authority activating a newer, low-lake pumping station to still be able to access water for its customers.

"But (the pumping station) coming online is also a symbol of how serious the situation is on the Colorado River right now," said Colby Pellegrino, deputy general manager of resources for Southern Nevada Water Authority. "Reservoir levels are



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Smart About Water Day



By [Denise Wong](#)
Published: May. 6, 2022 at 6:17 PM PDT
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RENO, Nev. (KOLO) - Need help getting your sprinklers set up? Just ask the experts tomorrow. They'll be at the free and family-friendly Smart About Water Day event taking place at Lazy 5 Regional Park in Spanish Springs. Local water planning experts from the Truckee Meadows Water Authority will also be there to talk about what's being done to protect the river and source water in our region as well as water recycling and more. Andy Gebhardt from TMWA stopped by KOLO 8 to talk about what people can expect.

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Most Read

Tahoe underwater cleanup crosses finish line



By [Ed Pearce](#)
Published: May. 10, 2022 at 6:02 PM PDT

STATELINE, Nev. (KOLO) - Cold wind blowing and snow flying. It was not the sort of day that brings crowds to Tahoe, at least not its beaches. But a number of people, bundled up, stamping their feet were gathered at Edgewood Tahoe Tuesday morning.

They were here to cheer a group of divers emerging from the water. We should note here it was actually warmer in the water than on shore. At 41 degrees the divers were, for once, leaving an environment warmer--by about eleven degrees at the moment--than their shivering fans were experiencing on shore. But that both groups were enthusiastically here, says something about the moment.

The divers had just finished an underwater circumnavigation of the lake while literally pulling tons of trash and litter from the bottom.

It was time to celebrate.

"We've pulled out over 25 thousand 200 pounds of litter across 81 diving days," Colin West announced to the crowd.

For West it was a special moment, the achievement of a goal he had set more than two years ago. A Tahoe-based filmmaker and avid diver he had seen in his travels other waters spoiled by trash and discovered the same problem here at home.

"Get down there with your scuba gear about a foot or two off the surface and all of a sudden you start to see beer cans from the 80's or 70's that are covered with sediment and algae," he told us in 2019.

Delayed by the pandemic, the idea caught on. Others rallied to the cause, donating time, resources and money.

The aim was not only to pick up trash, but build a database. What's ending up in the lake and where? West says that's going to be a continuing assignment.

"We're going to do twenty different hot spots and monitor those across the Nevada side as well."

And--he says--though the focus will always return to Tahoe, other Sierra lakes, Donner, Fallen Leaf and even June Lake could get some attention. Tuesday's finish line apparently was only the start.

"I wish we could say the job is done, but we're only getting started. I know we're going to be pulling out large amounts of litter probably every year for quite a few years until our organization can put in more preventative efforts to continue to protect Lake Tahoe."



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OneWater Nevada receives prestigious award for Advanced Purified Water Demonstration Project at Reno-Stead Water Reclamation Facility

April 26, 2022, Truckee Meadows Water Authority

City of Reno

OneWater Nevada’s Advanced Purified Water Demonstration Project (APWD Project) conducted at the Reno-Stead Water Reclamation Facility (RSWRF) has been named the 2021 project of the year by the Truckee Meadows American Society of Civil Engineers.

The project was a joint effort between the City of Reno, Truckee Meadows Water Authority (TMWA), and the University of Nevada, Reno, to treat reclaimed water to Category A+, inject the water underground, and then recover the water for beneficial use. This process is known as aquifer storage and recovery. The small-scale (15 gallons per minute) demonstration project proved that the advanced water treatment technologies are valid and cost-effective.

Category A+ reclaimed water is advanced purified water that meets or exceeds all Federal and State drinking water standards. Treating reclaimed water to Category A+ status uses state-of-the-art water treatment technology and then harnesses natural groundwater processes to safely produce a drinking water quality product.

“We’re extremely proud to receive this prestigious honor from the American Society of Civil Engineers for our efforts to provide a local, reliable and drought-proof water source for our community,” said City of Reno Public Works Director John Flansberg. “This project demonstrates the importance of regional collaboration and how much we can accomplish when we work together toward a more sustainable future.”

“Advanced purified water provides our region with an opportunity to create a new and sustainable water supply option,” said Dr. Lydia Teel, TMWA Emerging Resources Program Administrator. “Instead of using a resource only once, we can recycle and reuse water in a safe and reliable manner to create a drought-proof water supply for our future.”

“The University of Nevada, Reno’s Nevada Water Innovation Institute is proud to collaborate with our government agency partners on this project,” said Dr. Krishna Pagilla, Chair of Civil and Environmental Engineering at the University of Nevada, Reno. “Water is a key resource in our region, and we are honored to be a part of the team that is finding solutions to the area’s water management issues.”

Through the success of the project, the City of Reno and TMWA are working jointly to build a full-scale Advanced Purified Water Facility in the North Valleys. It would involve upgraded treatment facilities at the RSWRF, an advanced purified water facility to be built offsite or at the RSWRF site, conveyance pipelines, pump station improvements, and injection and extraction wells. Advanced purified water stored in the aquifer would initially be taken out and used for irrigation of the American Flat site.

On Wednesday, April 27, during the Reno City Council Meeting, City staff will present a project status update and outline the next steps for future implementation.

