

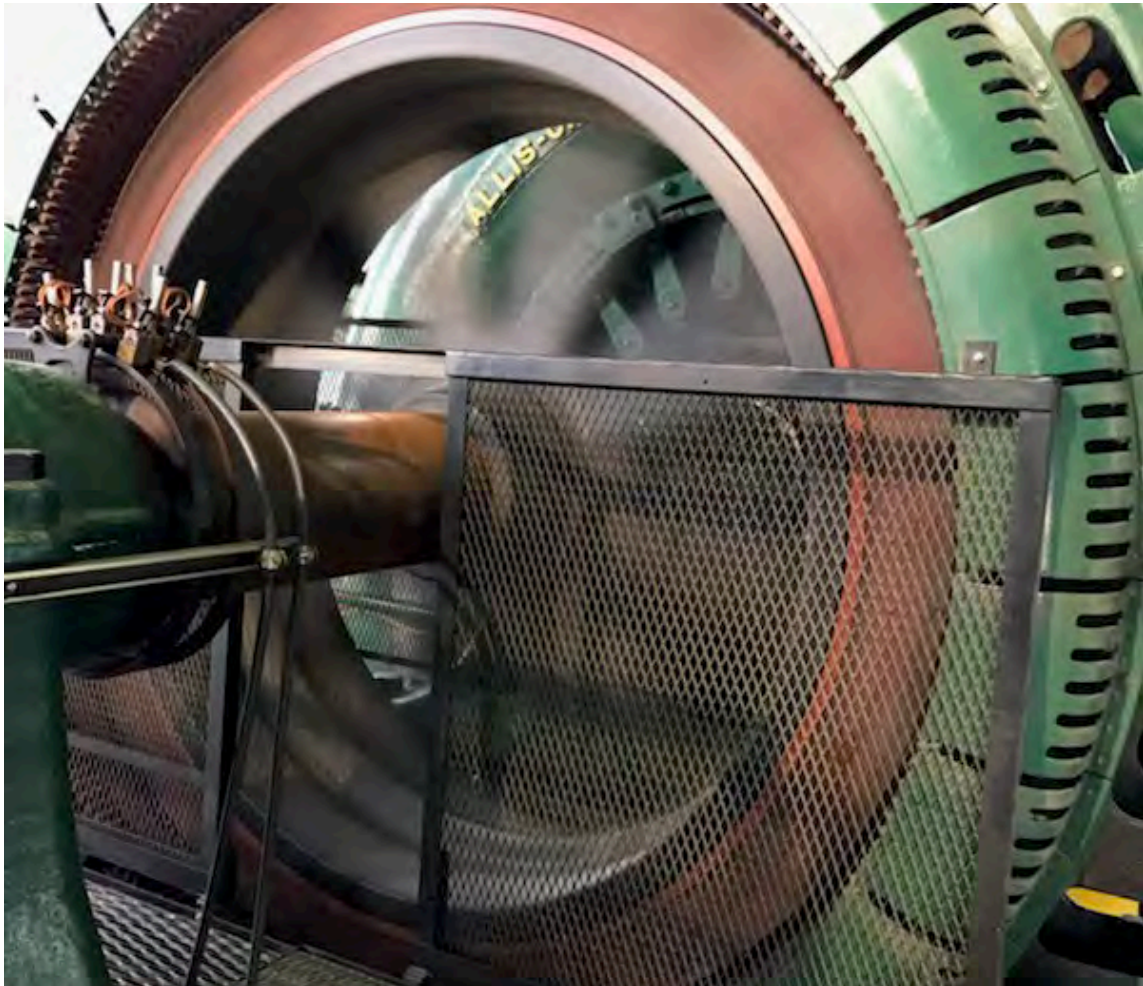


TMWA Board Meeting

Wednesday, April 19, 2023

Press Clippings

March 8, 2023 – April 6, 2023



Verdi Hydro

FEATURED GOVERNMENT

County: Prepare for heavy rainfall, possible flooding

By: **ThisIsReno** March 9, 2023

Image: Ty O'Neil / This Is Reno

The National Weather Service is forecasting an [atmospheric river to hit the Reno-Tahoe area](#) on Thursday.

The storm may bring heavy rainfall on top of a significant snowpack and full creeks and ditches, county officials said.

“Washoe County Community Services Department (CSD) follows mandated priorities for flood response: Top priority is life safety, then to maintain clear access for emergency vehicles and to protect public infrastructure,” officials said in a press statement. “Protections are in place to minimize the impact on the public.”

CSD has staged equipment such as backhoes, loaders and trailers for deployment in case of an emergency.

While ditches have been cleared, the county advises residents to remove garbage and debris from their properties and empty roadside ditches to prevent clogged drains and unnecessary flooding.

CSD warns against walking into standing water or flooded ditches as they are dangerous.

“Washoe County has done everything it can to minimize the impact of flooding on residents, but we know that heavy rain on top of heavy snow will cause water levels to rise and low elevations to flood,” Washoe County Emergency Manager Kelly Echeverria said. “We must each take responsibility to prepare and protect our homes and our families.”

Lemmon Valley

In Lemmon Valley, the county has taken measures to protect the area around Swan Lake from rising water levels, including constructing protective berms in certain areas around the lake and installing high-flow pumps to manage water that flows down from the surrounding areas.

“We have a plan. The work we did a month ago was to prepare us for today,” Assistant County Manager Dave Solaro said. “What we’re doing today is to protect us for a month from now.”

Several ditches in the southern end of the county near Toll Road, Geiger Grade, Whites Creek, and Thomas Creek are buried under several feet of snow, increasing the potential for flooding from irrigation ditches.

Crews have been monitoring these ditches and clearing them of debris to minimize flooding, officials said. Some known problem areas around Toll Road and Geiger Grade are already sandbagged.

Contact information

To report a problem within the City of Reno, please call [Reno Direct](#) at 775-344-INFO (4636).

To report a problem within the City of Sparks, please call 775-353-2231 or download the city’s new [My Sparks app](#).

Electricity

Heavy snow can damage trees, which in turn can damage power lines. If you suspect damage to a power line, do not go anywhere near it. [Report downed power lines](#) to 9-1-1 and NV Energy’s emergency line: 775-834-4100.

NV Energy has information on how to prepare for possible power outages [here](#). Residents can also report street light issues [here](#).

Traffic Signals

To report traffic signal issues, call 775-335-7623.

Travel

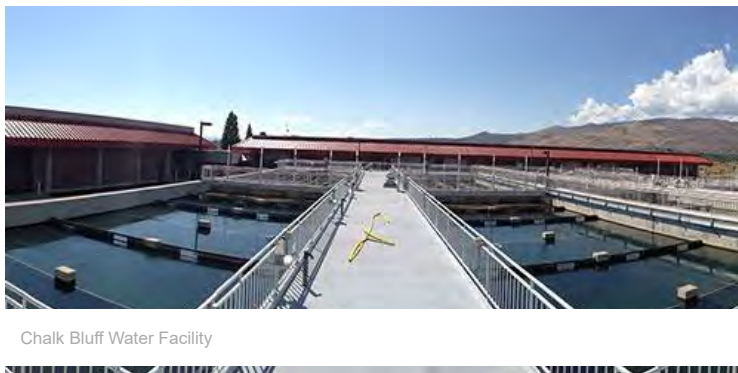
Check the Nevada Department of Transportation [roads webcams](#) or call 1-877-NV-ROADS, or visit [nvroads.com](#), for real-time road conditions and be prepared for possible delays.

Source: Washoe County

Home

The Science of Sustainability: Carson City students take field trip to the water treatment facility

Submitted by Carson Now Reader on Thu, 03/09/2023 - 2:08pm



Chalk Bluff Water Facility

Kristin Steinkraus, Pioneer Academy Science Teacher

Many of us take for granted that we can turn on a faucet and clean water is immediately available for drinking, bathing and cleaning, but we often don't think much about where it comes from and how it gets to us.

Thirty Pioneer Academy students had the opportunity to learn just that on a tour of the Truckee Meadows Water Authority Chalk Bluff water treatment facility last week.

The trip was organized by Envirolution, a non-profit located in Reno that focuses on connecting students with educational and career opportunities related to technology and sustainability. Pioneer has partnered with Envirolution for other field trips over the past couple of years, and they have never failed to provide a memorable and meaningful experience for the students.

Students first took a tour of the facility, starting with some of the input channels where water is diverted from the Truckee River into holding ponds for processing. Students were interested to learn that their drinking water mostly comes directly from the river, and had several questions about the process of making it clean enough to drink. Students then went inside where they learned about the processes of removing impurities via agglomeration and filtering while viewing the enormous tanks where those processes were happening. Finally, students learned about the chemical treatments used at the end to kill any remaining organisms too small to be filtered out.

The second part of the trip involved some demonstrations of the different types of testing done on the water both at the plant and out in the field. These included testing for acidity, salinity, turbidity (clarity), and bacterial cultures. Students got to observe and use some of the numerous testing devices used by the scientists there and understand why these measurements were important.

The employees at TMWA were great; they were knowledgeable and approachable and seemed to enjoy talking with the students and answering their questions. Pioneer would like to thank Envirolution and the employees of TMWA for giving us this opportunity and for making it an interesting and educational experience.

News Education

Carson Now daily email newsletter

Click here to get the latest news sent to your inbox every day

Top Stories

... or see all stories

Carson City hosts 'I voted' sticker contest for 2024 election cycle

News - Wednesday, April 5, 2023 - 1:00pm

Carson City news release



Water permit files at the Nevada Division of Water Resources in Carson City on Feb. 22, 2023. (David Calvert/The Nevada Independent)

Indy Environment: The state relies on old records to manage water. A new effort seeks to put them online.

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.

In the basement of Winnemucca's historic courthouse, walking distance to the Humboldt River, is a vault containing water records dating back at least a century, when officials started to divide up the roughly 330-mile river that stretches across central Nevada from Wells to Lovelock.

Such documents — maps, court decree files and state reports — are not just historic artifacts. In many cases, they offer the original record outlining how to manage water water in Nevada.

Like in much of the West, the right to use water is rooted in history. Those with the oldest, or “senior,” claims to water are given a priority to use water in times of shortage: [“First in time, first in right.”](#)

To lose those documents is to lose not only a part of this history, but a blueprint for managing water.

It’s why it was so concerning when some of these courthouse records were nearly destroyed last year. According to Humboldt County Clerk Tami Spero, a staffer was pulling a file from the water records “vault” when she noticed it looked wet. Moisture had seeped into the vault, and it had damaged maps associated with the court decrees that first allocated the Humboldt’s water.

“It’s very, very rare that those maps would even come out of those drawers,” Spero said.

Spero said she ran to the basement, saw the moisture for herself and contacted one of the state officials who helps manage the Humboldt River. Together, they were able to salvage the maps.

But the incident last year underscored the compelling case — for both Spero and officials at the Nevada Division of Water Resources — to digitize historical water documents, currently held in courthouses across the state and in Carson City, often consisting of just a single paper copy.

Over the next few years, state officials are looking to fix the problem.

“The goal is to digitize as much as we can,” said Micheline Fairbank, deputy director of the division, as she walked between shelves of printed water maps. “There’s a lot of historical stuff in here.”

The central repository for state water records is on the second floor of a state building in Carson City. Here, in the Division of Water Resources, are stacks and stacks of records, so packed that staff have used clever storage systems, such as swivel cabinets and mobile bookshelves.

Using \$1.3 million in funding from the American Rescue Plan Act, Fairbank said the state’s plan is to digitize as much of the office’s public records as possible — and at the very least review the voluminous information at the office: Administrative records, which can number hundreds of pages. Hearing transcripts. Official state reports on water (the agency’s office is filled with notes, surveys and correspondence stored in bookshelves). Maps. Well logs. Dam files.

“The idea is to do this in the next three to four years,” she said.



Maps held at the Nevada Division of Water Resources on Feb. 22, 2023. (David Calvert/The Nevada Independent)

One room is filled with drawers and drawers of maps, compiled by engineering firms and often hand-delivered to the state office. They show, in specific detail, where water is diverted or wells are drilled.

In another room are original and bound copies of all the water rights and certificates issued by the state engineer. Flipping through tens of thousands of pages of water rights offers a glimpse into how the state grew over the past century, from growing alfalfa to growing homes.

When Fairbank flipped to the second water application received by the state after it adopted a process for appropriating water in 1905, the page was scribbled with elaborate cursive that was almost hard to read — markings from another time. The document lists “H.L. Dangberg Land and Livestock Co.” seeking to irrigate 1,200 acres from the east fork of the Carson River.

Although some of these applications have been digitized, researching them in more detail can be a major accessibility challenge for the public, let alone for professionals who work with water every day.

In a nearby room, mobile bookshelves are filled with “permit files” that correspond with each water right. They tell the “story” of each permit, Fairbank notes. The files contain a century's worth of correspondence about how water came to be used, and in some cases, overused. It shows whether the water right faced any enforcement actions (if a right is not used, a user can be forced to forfeit the water, unless they receive an “extension of time” from state regulators).

The catch?

The records can only be accessed at the state's offices.

“These are not digitized,” Fairbank said. “So if you are a water rights owner in Pioche and you want to look at your permit file, you can't go online” to see what is associated with your right. It's also a problem for water professionals — hydrologists, irrigators, lawyers, even real estate agents — who might be trying to understand the value of a water right and how much water is truly available in an area, especially as demand for water continues to increase in many areas.

Nevada is not alone in this challenge. California is also working toward digitizing its records to improve its data and modernize its record system, the [Los Angeles Times reported last year](#).

Another major reason to digitize the records: The public has a right to know how water is used.

While a right to use water can be appropriated by individuals and businesses, Nevada's water statutes state that water belongs to the public. Making records more publicly accessible could provide accountability, enhancing the ability to understand why state water decisions get made.

“We should be more publicly accessible without having to travel to Carson City,” Fairbank said.

The effort comes at a time when Nevada is working to improve its water data. At a recent water conference, state officials previewed the Nevada Water Initiative, a collaborative effort with the Desert Research Institute and the U.S. Geological Survey to improve estimates of groundwater availability. And a new tool, [OpenET](#) — developed by the Desert Research Institute, NASA and others — uses satellite imagery to help estimate how water is used across the arid West.

There are important practical considerations too. In the coming years, the state is preparing to adjudicate old claims for water rights that predate Nevada’s statutory framework. These claims, known as vested claims, are often proven using historical documentation, from local tax records to 19th-century correspondence. That can make preserving historical records all the more vital.

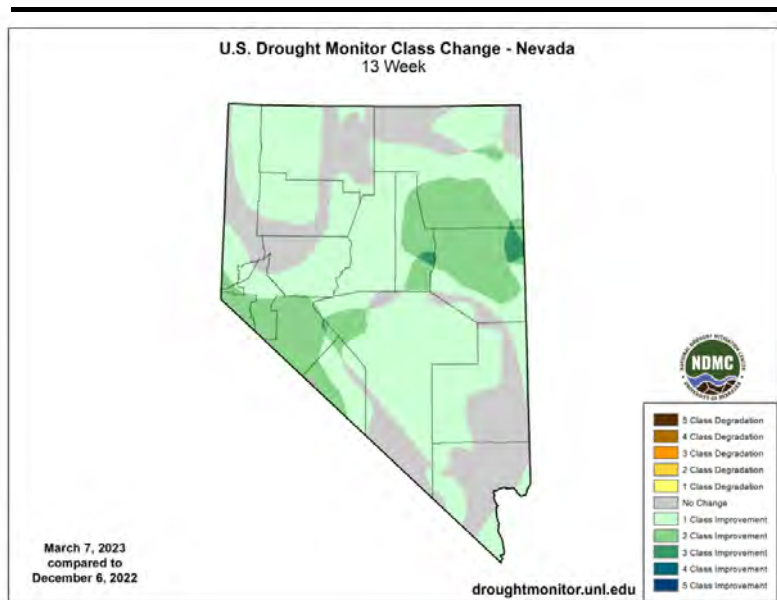
Moreover, officials with the Division of Water Resources rely on permit files for a “full picture of what’s transpired” in the past. Fairbank said it can provide “the full story of what that right is.” It is essential to understand the backstory, Fairbank said, in interpreting current water right issues.

Using the funding appropriated to the agency for preserving its paper records, the division is looking to fill two permanent and several temporary positions to guide the modernization effort.

But uploading the archive won’t happen overnight.

Some of the records are extremely fragile and require care — the difference between using a flatbed scanner versus a simple document feeder. And the division still has work to do to create the software for displaying the records online, part of larger efforts to update an old website.

“Beyond public service, it’s the record preservation” that’s important to the agency, Fairbank said. “Because that’s how we do our job on a daily basis.”



A map showing where conditions have improved in the past three months. (U.S. Drought Monitor)

Our mailing address is:

7455 Arroyo Crossing Parkway Suite 220
Las Vegas, NV 89113

Want to change how you receive these emails?
You can [update your preferences](#) or [unsubscribe from this list](#).

☰ [News](#) [Weather](#) [Sports](#) [KOLO Cares](#) [Livestream](#)

Washoe County releases plans to prevent Swan Lake flooding

An atmospheric river is set to hit northern Nevada over the next few days.



By [Ashley Grams](#)

Published: Mar. 9, 2023 at 9:51 AM PST

RENO, Nev. (KOLO) - For many residents, the idea of wet weather in Lemmon Valley is a scary one.

Just six years ago, the flooded lake poured into homes in the area. With an atmospheric river set to hit northern Nevada over the next few days, Washoe County says this year will be different.

"Washoe County and the City of Reno have been very proactive in planning for this flood that we're expecting," said Dwanye Smith, Washoe County Director of Engineering and Capital Projects.

The county monitors a live camera pointed at the lake to watch water levels and collect water surface elevation data. Right now, the Swan Lake water elevation sits at 4,919.4 feet, which is about four feet lower than both flood instances in 2017 and 2019.

"We've learned a lot since 2017 about these closed basins and how they perform," said Smith.

Now, Swan Lake has an overland pipeline that was intalled in 2020. This pipeline pumps water out of Swan Lake and into the American Flat, land north of the Reno-Stead Airport.

"What that does is during the summer irrigation season we can draw down the level of Swan Lake allowing more flood waters, more volume for flood waters in the winter," said Trina Magoon, City of Reno Director of Utility Services.

Reno taxpayers funded the pipeline, costing over \$2 million dollars.

In a story we did back in 2020, we were told this particular pumping method took about 4 inches out of the lake annually.

Washoe County and the City of Reno also says they are no longer taking a reactionary approach to flooding like they did in years past. Now, they have an action plan and are ready to respond.

"They're based on elevations, we have equipment ready to deploy so that's a big difference," said Magoon.

Many of these new plans have yet to be tested by rising water levels like the ones that we saw six years ago.

Copyright 2023 KOLO. All rights reserved.

Most Read

NevadaToday



The Truckee River's water levels have been high as precipitation continues to feed the river, lakes and reservoirs. (Photo by Adam Csank)

Nevada Drought Update for March 2023

State Climatologist shares a quarterly update about Nevada's ongoing drought

Science & Technology (<https://www.unr.edu/nevada-today/news/science-technology>) | March 14, 2023

Michelle Werdann (<https://www.unr.edu/nevada-today/about/authors/michelle-werdann>)

Associate Professor in the Department of Geography Steph McAfee serves as Nevada's State Climatologist. She recently published an update about Nevada's drought, which was shared through the **Living With Drought** (<https://livingwithdrought.com/>) program and is published below. Living with Drought is a collaborative program that provides information to help Nevadans prepare for, respond to and recover from drought.

Drought continues to improve across the state courtesy of cold wintery storms. Large reservoirs like Lake Mead remain low and will need several good years to approach normal.

Current drought conditions in Nevada and across the West

Another cold and locally wet month delivered further drought improvements. Less than 10% of the state is now in D3-Extreme Drought, which is limited to Lincoln, Nye and Clark counties. Several counties are now wholly or partly out of drought and are just Abnormally Dry (D0). Nevada's Drought Response Plan calls for counties to be under a Drought Alert when at least half of the county is in D2-Severe or more significant drought for at least two weeks and a Drought Watch when at least half the county is in D1-Moderate Drought. All Nevada counties started the water year under a Drought Alert. Now four counties—Carson City, Douglas, Mineral and White Pine—are out of both Alert and Watch status. Only six remain in the higher Alert category—Clark, Humboldt, Lincoln, Nye, Pershing and Washoe.

Across the western U.S., D4-Exceptional Drought remains only in Oregon. D3-Extreme Drought is also much reduced in area. A large portion of the Upper Colorado River Basin is not experiencing any drought. Parts of the Sierra Nevada are also drought free.

Over the past month, there have been one-class improvements across many western states. In parts of California and Utah, conditions improved two full classes in February. There were one class degradations, mostly in the coastal Pacific Northwest where the weather has been unusually dry.

February was cold state-wide and locally quite wet. After a bit of a break in the weather during late January and early February, storms came through again near the end of the month. Parts of Esmeralda, Mineral and far southern Nye counties received two or more times the normal February precipitation. Other parts of Nevada were drier. Parts of Humboldt, Pershing, Churchill, Lander, Lincoln and Clark counties received less than half the expected February rain and snow.

It was quite cold, though. Temperatures were well below the 1991-2020 average over almost all of Nevada. Cold temperatures meant that even Las Vegas got some snow. Trace amounts were reported at the National Weather Service office and at the airport. The National Weather Service issued a blizzard warning for Tonopah.

Speaking of snow, much of the Sierra Nevada and Great Basin had one and a half to nearly three times as much snow as usual for late February. The Upper Colorado River basin is also snowy, averaging 135% of normal.

Along the eastern side of the Sierra, and particularly in the Walker River and Mono-Owens Lakes basins, the snowpack is astonishing. In the Walker River basin, the snow is higher than the Natural Resources Conservation Service has ever reported (admittedly the record only extends back to 1981). The snowpack is, in fact, over twice the median peak. In the Lower Humboldt, which has been relatively dry compared to other parts of the state, snowpack is already above the median peak snowpack, which normally occurs later this month. All this is before the snow expected in early March.

Soil moisture

Soils in west-central, central and southeastern Nevada are wetter than normal on the surface and at depth. In much of Douglas County, topsoils are 70% wetter than normal. Elsewhere, topsoils and subsoils are generally drier than normal. Subsoils in western Clark County appear as much as 50% drier than normal. As usual, anomalies are more pronounced in topsoil than subsoil.

Water resources

Water levels in many Nevada reservoirs are near or above normal for late February. Bridgeport Reservoir and Topaz Lake are particularly full. Both are normally less than half full at this time of year. This year they are at 56% and 66% of capacity, respectively. Rye Patch Reservoir remains at just 5% capacity, instead of the relatively low 16% of capacity that is normal for late February.

Lake Mead elevations remain very low, and with the most probable inflows, it is expected to remain in at least Level 2 shortage through the next two years.

Streamflows were mixed, ranging from lowest-ever to highest-ever flows reported. Both lowest-and highest-ever flows were reported in southern Nevada. Elsewhere flows ranged from much-below to above-normal in areas with generally high precipitation, suggesting reservoir management is contributing.

Looking forward

Water-year-to-date precipitation is in the top 10% for much of Nevada. In a few areas, it is even the wettest October - February period since the 1890s. Much of Clark County, along with parts of southern Nye and Lincoln counties do remain near or slightly drier than normal.

Washoe Commission Chair Hartung resigns, will take job with state



Tabitha Mueller March 14th, 2023 at 5:07 PM

Government Local Government State Government



Washoe County Commissioner Vaughn Hartung at a county commission meeting on Aug. 28, 2018. (David Calvert/The Nevada Independent).

Chair Vaughn Hartung is resigning from his position on the Washoe County Board of Commissioners to take a position on the board of the Nevada Transportation Authority, which regulates taxis and other passenger transportation services.

An announcement emailed by Washoe County Tuesday said the resignation was effective March 15.

“Chair Hartung is grateful for the opportunity to serve and he’s confident that Governor Joe Lombardo will appoint a successor who has the same dedication and commitment to the role,” the statement said.

A spokesperson for Lombardo’s office said Hartung would serve as chair of the transportation authority, which has one vacant seat after George Assad left the position in January after being

appointed to the Gaming Control Board.

State law [stipulates](#) that the governor gets to select the chair of the board.

“Throughout his time as commissioner, Vaughn helped bring critical innovation, development, and growth to Washoe County,” Lombardo said in a statement. “I’m grateful for Vaughn’s willingness to continue his service to others by serving as the Chair of the Nevada Transportation Authority.”

Hartung, a Republican, most recently won re-election in 2020 to his third and final four-year term on the commission, after being elected to office in 2012. Under [Nevada law](#), Hartung’s position will be filled by appointment by Lombardo, who must select a person of the same political party to take the seat.

According to [Transparent Nevada](#), Hartung’s salary as a county commissioner was around \$75,000, while the salary of a transportation authority commissioner is [around \\$120,000](#).

Ray said there is not an appointment timeline available.

When reached via phone on Tuesday, Hartung declined to comment.

This story was updated at 5:57 p.m. to reflect new information that Hartung will be serving as chair of the board, and updated again at 6:55 p.m. to include a statement from Lombardo.

The Nevada Independent is a 501(c)3 nonprofit news organization. We are committed to transparency and disclose all our donors. The following people or entities mentioned in this article are financial supporters of our work:

- Joseph Lombardo – \$1,800



Tabitha Mueller

Tabitha Mueller is a staff reporter whose coverage areas include state elections, COVID-19, housing and the Legislature.

NEWS

Proposed Reno stormwater fee has homeowners, schools, airport authority bristling

**Amy Alonzo**

Reno Gazette Journal

Published 3:12 p.m. PT March 14, 2023

A proposed City of Reno stormwater ordinance could end up costing businesses and schools millions of dollars annually while forcing some residents to pay double or triple fees.

The city is looking to raise \$440 million over the next 20 years to pay for a backlog of stormwater conveyance projects and repairs, and that those fees would help raise the funds.

The ordinance would charge homeowners anywhere between \$8 and \$23 per month, depending on their property's size. Businesses would be charged on a sliding scale, depending on the amount of hard surfaces — such as parking lots — on the property.

The Washoe County School District and Reno-Tahoe Airport Authority have submitted business impact statements to the city explaining just how hard the fee would hit them. The airport anticipates paying around \$1 million a year, while the school district estimates it will pay roughly \$575,000.

And residents and business owners in southeast Reno's Damonte Ranch are worried they will be paying twice for one service.

Damonte Ranch in southeast Reno has its own stormwater system. The privately funded drainage system doesn't flow into the city's system, and each month, residents pay \$12.50 for stormwater services.

All stormwater originating in Damonte Ranch flows into and are maintained by the district's stormwater discharge facilities. They then flow into Steamboat Creek and the Truckee River.

Adding a stormwater fee to a community that has already mitigated its stormwater discharge “essentially serves as double taxation,” according to a business impact statement submitted

to the city on behalf of Damonte Ranch Drainage District and other southeast Reno development partners.

Now, residents like Joanne Rennie worry they will pay double for services – once to the drainage district, and a second time to the city.

“There just comes this threshold where you say enough is enough,” she said.

Impacts to schools, airports and others

It’s not just homeowners bristling at the proposed fee.

Under the current proposed rates, the Reno-Tahoe Airport Authority would bear the largest financial impact of any entity, RTAA CEO Daren Griffin wrote in a business impact statement.

The RTAA oversees the Reno and Stead airports. Combined, the two facilities span 42.6 million square feet of impervious surfaces.

While the proposed ordinance excludes taxiways and runways, it doesn’t exclude other paved surfaces at the airports, like Terminal Loop Road at the Reno Airport.

The RTAA would pay roughly \$82,000 per month, or more than \$1 million annually in fees, at the end of the three-year rollout. Those fees would ultimately get passed on to airlines and airport tenants, according to the RTAA.

Washoe County School District is another entity facing steep charges.

With 12.4 million square feet of impervious surfaces within the city limits, the district estimates it will pay nearly \$50,000 per month after the full rollout of the fee. That roughly \$575,00 per year is enough to fund 10 teacher positions, according to Adam Searcy, chief operating officer for Washoe County School District.

Since the school district receives almost all its general fund money from the state, it does not have the ability to generate more revenue to offset the increased costs, Searcy said in a business impact statement.

How the fee would be assessed

The city is dividing single-family residential properties into three tiers. Tier two properties have between 2,101 and 5,000 square feet of impervious surfaces and will have a starting rate

of \$13.46 per month. Residential properties that have smaller amounts of those surfaces will pay roughly half of the \$13.46 fee, and properties with more than 5,000 square feet will pay nearly twice that.

Multi-family properties and businesses will pay fees based on how many tier-two residential properties they are the equivalent of.

Larger properties – those with impervious surfaces greater than four times the size of an average residential unit – will have their fees phased in over a three-year period. Multi-family residential properties and businesses that provide some type of stormwater measures could receive credits from the city.

Fees will not be assessed on some impervious surfaces, such as railroad tracks, airport runways and taxiways, and highways and roads maintained by the Nevada Department of Transportation.

Set to increase with inflation

As proposed, the fee will increase annually by an amount equal to the increase of the Consumer Price Index, defined by the Bureau of Labor Statistics as “a measure of the average change in prices over time in a fixed market basket of goods and services.”

The CPI usually goes up – the last time it went down was in 2009.

The school district questioned the city’s plan to tie increases in the stormwater fee to the Consumer Price Index. The CPI “covers items like food that does not come into play for stormwater services and capital construction,” the school district wrote to the city.

“This dramatically inflated rate [is] now the least this fee will ever be, and is slated to increase automatically, annually, and without public input or council oversight, indefinitely.”

The city's response

The city declined to speak with the RGJ for this story, citing ongoing reviews of community feedback.

In an email to the RGJ, the city stated, "At this time, our Utility Services team is reviewing all the feedback and questions submitted by the public after receiving the Business Impact Statement. Once they've had an opportunity to review the responses, which will influence the

proposed ordinance for the Reno City Council to consider, we will update the public and media on the next steps and timing."

Amy Alonzo covers the outdoors, recreation and environment for Nevada and Lake Tahoe. Reach her at aalonzo@gannett.com.

EPA proposes first standards to make drinking water safer from ‘forever chemicals’

By [Jen Christensen](#), CNN

Updated 3:53 PM EDT, Wed March 15, 2023



What you need to know about toxic 'forever chemicals'

02:23 - Source: [CNN](#)

(CNN) — The US Environmental Protection Agency on Tuesday proposed the first national drinking water standard for “forever chemicals” that are dangerous to human health. The move could radically affect drinking water for nearly everyone in the United States.

The new rule intends to set drinking water standards for six per- and polyfluoroalkyl substances, also known as PFAS or “forever chemicals.” PFAS are a family of ubiquitous synthetic chemicals that linger in the environment and the human body, where they can cause serious health problems.

Although there are thousands of PFAS chemicals, according to the National Institutes of Health, under the rule, water systems would have to monitor for six specific chemicals, notify the public about PFAS levels and work to reduce them if levels go above the standard allowed.

“I am thrilled to announce that EPA is taking yet another bold step to protect public health,” said US Environmental Protection Agency Administrator Michael Regan at a news conference on Tuesday in Wilmington, North Carolina. “Folks, this is a tremendous step forward in the right direction. We anticipate that when fully implemented, this rule will prevent thousands of deaths and reduce tens of thousands of serious PFAS related illnesses.”

Regan said the proposed rule would protect the health of people for generations. He characterized PFAS contamination as “one of the most pressing environmental and public health concerns in the modern world.”

The agency chose these chemicals because it has the clearest science about their impact on human health and said it is evaluating additional chemicals, as well.

The EPA’s proposed limits set the allowable levels for these chemicals so low that they could not be easily detected.

The proposal would regulate two chemicals, PFOA and PFOS, at 4 parts per trillion (ppt). For PFNA, PFHxS, PFBS and GenX chemicals, the EPA proposes not one standard for each but a limit for a mix of them.

Water systems would have to determine whether the levels of these PFAS pose a potential risk. They may need to install treatment or take other action to reduce PFAS levels, the agency said, and systems may also even need to switch to different water sources.

Found in homes across the country

The proposal would be one of the first new chemical standards that updates the Safe Drinking Water Act since 1996. The proposed standards would be much stricter than the EPA suggested in 2016, when its health advisories recommended PFAS concentrations in drinking water of no more than 70 ppt.

In June, based on the latest science, the EPA issued health advisories that said the chemicals are much more hazardous to human health than scientists originally thought and are probably more dangerous even at levels thousands of times lower than previously believed.

EPA Commissioner Regan established the EPA Council on PFAS as soon as he came into office in 2021.

“Despite previous administration’s anti-science stance which severely strained EPA financial and human capital, I charged this council with undertaking a comprehensive review of the problem and identifying solutions that we can implement immediately,” Regan said.

In October 2021, the EPA released its PFAS strategic roadmap. In November, the EPA shared a one-year progress report and set an internal deadline to propose this rule by the end of last year, but the proposal was going through an interagency review.

Now that the proposed rule is out, it will be open to a period of public comment. The EPA will take those comments into consideration and issue a final decision on the rule, expected later this year.

Public water systems generally have three years from the date of the regulation to comply, the agency said.

The chemicals have been widely used since the 1940s in hundreds of kinds of common household items, where they help repel water and oil. They can be found in water-repellent clothes, furniture and carpet, in nonstick pans, paints, cosmetics, cleaning products and food packaging, and in firefighting foams.

The extremely strong elemental bonds that make the chemicals repel oil and water also make it difficult for them to break down in the body or in the environment.

A 2019 study suggested that PFAS chemicals could be found in 98% of the US population.

The chemicals can primarily settle in the blood, kidney and liver, and exposure can lead to serious health problems like cancer, obesity, thyroid disease, high cholesterol, decreased fertility, liver damage and hormone suppression, according to the EPA.

Last year, the National Academies of Sciences, Engineering, and Medicine issued guidelines for doctors to test, diagnose and treat the millions of people who have a history of elevated exposure to these chemicals.

Attempts at regulation

Manufacturing of PFAS chemicals has already started to change.

Manufacturer 3M recently announced it would stop making them by the end of 2025. The American Chemistry Council, an association that represents chemical makers, said that PFOA and PFOS were phased out of production by its members more than eight years ago. “We support restrictions on their use globally, and we support drinking water standards for PFOA and PFOS based on the best available science,” the council said in an email to CNN. It does, however, say it has “serious concerns” about the science that the EPA used to create the rule that it calls “conservative.”

Toxic-Free Future, a group that advocates for the use of safer products and chemicals.

But no EPA water standard is going to solve the problem on its own. Manufacturers of items that use these chemicals will need to urgently find alternatives.

“We’ll keep polluting our drinking water if we don’t stop the uses of these chemicals,”

Hitchcock said. A replacement that many chemical companies have been using, GenX, may also be problematic, according to the EPA. Animal studies have shown that it may affect the liver, kidneys and immune system, and it might be linked to cancer.

In June, for the first time, the EPA issued final advisories for limits in drinking water of GenX, considered a replacement for PFOA, and PFBS, a replacement for PFOS: less than 10 ppt and 2,000 ppt, respectively.

The Biden administration has taken some steps to help eliminate exposure to this pollution. As a part of the 2022 Infrastructure Investment and Jobs Act, \$10 billion was made available for cleanup of contaminants like PFAS in drinking water.

In February, the EPA also announced \$2 billion available to address contaminants like PFAS in drinking water in small, rural and disadvantaged communities. Regan said the Biden administration is asking Congress for more resources to clean up PFAS pollution.

Environmental groups applaud move

Tuesday’s announcement “is really historic and long overdue,” said Melanie Benesh, vice president of government affairs for the Environmental Working Group an environmental research and advocacy group. “There are a lot of communities that have been exposed to these chemicals for decades.

“It’s clear that these chemicals are toxic at very low levels and the EPA is responding to that risk, and I think this is a huge win for public health,” she added.

A new rule, paired with actual resources to clean up contamination and to make sure communities can test for these chemicals, is an important step, said Sarah Doll, national director of Safer States, a group that works to help communities prevent harm caused by dangerous chemicals.

“We also need the polluters, those who actually caused the harm, to help pay for the cleanup,” Doll said. Seventeen state attorneys general and others are suing now several makers and users of these chemicals. “This is a first step. It’s great. It’s really important, and we’re going to need additional resources, especially from those who have caused harm.”

With the proposed rule, the EPA is catching up to 10 states that have enforceable drinking water standards for these chemicals: Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and Wisconsin.

“We’re very excited that the administration is taking these steps forward. They represent a very positive step in the right direction,” said Liz Hitchcock, director of federal policy for

Toxic-Free Future, a group that advocates for the use of safer products and chemicals.

But no EPA water standard is going to solve the problem on its own. Manufacturers of items that use these chemicals will need to urgently find alternatives.

“We’ll keep polluting our drinking water if we don’t stop the uses of these chemicals,”

Hitchcock said.

The Association of Metropolitan Water Agencies (AMWA), which represents the country's largest publicly owned water utilities in the US, said it is reviewing the proposed rule to assess the analysis the EPA used to determine what to regulate and at what levels. It criticized the shorter, 60-day timeframe for public comment, saying that the federal government's Office of Management and Budget had five months to review the proposed rule that comes with thousands of pages to review and is a complex piece of regulation.

"AMWA intends to provide EPA a robust set of comments to help strengthen the rule and ensure decisions are made with the best available science while taking costs into account, as required under the Safe Drinking Water Act," said Tom Dobbins, CEO of AMWA.

Dobbins added that the association is concerned about the overall operating and maintenance cost and quantified capital that drinking water utilities will have to take on to comply with the proposal, which the EPA estimates will be \$772 million, according to the association. The estimate is the cost per year, according to the EPA.

There is a \$1.2 billion annual cost savings based on the public health benefits "which is often missed in conversations on cost," the EPA said in an email to CNN.

The AMWA said it will be working with experts to determine if the EPA's cost benefit analysis **overall** is accurate.

"Ultimately, without more federal support for upgrading current treatment technologies, average Americans will have to pay the cost of further treatment through higher rates for their water," Dobbins added.

Users will also have to reduce demand. In one instance, the US Department of Defense has set a schedule to get PFAS out of firefighting foam by October and to stop use of it by October 2024. Hundreds of military properties have been contaminated by foam used to put out jet fuel fires

The proposal is now open for public comment before the standards are finalized.

People who want to make their water safer in the meantime can use point-of-entry or point-of-use filters with activated carbon or reverse osmosis membranes, which have been shown to be effective at removing PFAS from water, the EPA says.

How rising temperatures are intensifying California's atmospheric rivers

As storms get warmer and wetter, the state's flood control system is struggling to keep up.



Josh Edelson / AFP via Getty Images



California is no stranger to big swings between wet and dry weather. The “atmospheric river” storms that have battered the state this winter are part of a system that has long interrupted periods of drought with huge bursts of rain — indeed, they provide somewhere between 30 and 50 percent of all precipitation on the West Coast.

The parade of storms that has struck California in recent months has dropped more than 30 trillion gallons of water on the state, refilling reservoirs that had sat empty for years and burying mountain towns in snow.

But climate change is making these storms much wetter and more intense, ratcheting up the risk of potential flooding in California and other states along the West Coast. That’s not only because the air over the Pacific will hold more moisture as sea temperatures rise, leading to giant rain and snow volumes, but also because warming temperatures on land will cause more precipitation to fall as rain in the future, which will lead to more dangerous floods.

The family of storms that descended on the state this week only underscored this danger, shattering snow records and overtopping levees across the state.

“There’s a cascading chain of impacts,” said Tom Cerrington, a

University of California, San Diego. “As you push the rivers harder, as you push the flood protection system harder and harder, you get sort of exponentially increasing impacts. You flood the whole floodplain, or a levee breaks, and that’s where you get the really catastrophic events.”



People shovel snow from a roof in Mammoth Lakes, California in the wake of an atmospheric river event that brought heavy snowfall to the area. *Photo by Mario Tama / Getty Images*

An “atmospheric river” is a long, narrow ribbon of moisture that carries water vapor from the tropics to land at higher latitudes. One of the most well-known examples is the “Pineapple Express,” which streams eastward from Hawaii across the Pacific Ocean and makes landfall on the West Coast. The term atmospheric river originated back in the 1990s, and caught on because of the high volume of water that these ribbons can contain: A single one can move more than twice as much water through the sky as flows out

As sea and air temperatures in the Pacific Ocean rise, the storms hitting the West Coast now retain more moisture, leading to longer and more intense bouts of rain. At the same time, precipitation from low- and medium-intensity storms has started to taper off, leaving California to swing on a pendulum between extreme drought and extreme rain. Research suggests that with further warming, atmospheric river events will account for an ever-larger share of California's total water budget, dumping water faster than the state can absorb it.

“Across the globe, some places are gonna get wetter, and some places are gonna get drier, and for California, it looks like we’re gonna get both,” said Corringham. “There’ll be longer periods of drought, and then when the rains come, those events are going to be more intense. For water management, that’s not what you want.”

When an atmospheric river touches down in North America, it releases all its moisture. Depending on where you are along the West Coast, you encounter that moisture as either rain or snow: lower-altitude areas like the Central Valley experience heavy rains, while mountainous areas like the Sierra Nevada see massive mounds of snow. When it comes to controlling water and avoiding floods, this balance is crucial: Snow piles up, creating a steady source of freshwater as it melts during warmer, drier months; extreme rain, meanwhile, rushes downstream all at once.

Climate change is upsetting this balance. The warmer it gets in California, the more precipitation arrives as rain rather than snow, which will put much more pressure on the state's rivers and

gradual snowmelt, but they can't handle a sudden influx of rushing water.

Corringham's research shows that because a slight increase in flooding can cause rivers to overtop levees and spill out into floodplains, the risk of flooding increases exponentially even with a moderate increase in the wetness of an atmospheric river. As a result, it won't take much planetary warming to lead to widespread flood devastation — the results may be visible over the next few decades, or even earlier.

We've already seen what big bursts of rain can do to the state's fragile water control system. In early 2017, when an atmospheric river storm eased the state's last big drought, water levels at the state-managed Lake Oroville reservoir reached unprecedented heights. As rain kept falling, the reservoir's spillway began to collapse, forcing the state to evacuate more than 180,000 people from the river basin downstream. A subsequent investigation found that federal regulators had deferred major upgrades on the spillway structure.

Just last week, during a torrential atmospheric river storm, a decades-old levee burst along the Pajaro River near Santa Cruz, inundating the entire community. Officials in the town said it may be months before homes in the area are habitable.

Even if the state makes it through the present round of storms without a catastrophic flood, it won't be out of the woods yet. That's because of the monumental snowpack in the Sierra Nevada range. As temperatures shoot up over the coming months, much

one expert has called a “stress test” for the Central Valley’s flood management system.

“If temperatures are warmer, and warm at a faster rate, that can cause the snowpack to melt faster than normal, and it might be harder to anticipate and harder to control,” said Allison Michaelis, an associate professor at Northern Illinois University.

All donations matched for a limited time

We’re honored to announce that Grist has won the 2023 National Magazine Award in the category of General Excellence, Literature, Science, and Politics.

As a nonprofit, our success stems from the readership and donations from individuals like you. **Donate today to help us continue our award-winning journalism at a time when everyone needs access to fact-based climate news rooted in equity and justice. Plus all donations will be doubled for a limited time!**

[Donate Now](#)

Next Article

 Fooding by the Highway 92 West in Half Moon Bay, California.

Grist

[Donate](#)

SouthTahoeNOW.com

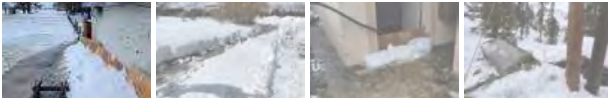
Your One Stop for Lake Tahoe News & Information

Storm impacts to South Tahoe Public Utility District

Submitted by paula on Wed, 03/15/2023 - 11:47pm



Bellevue pump station temporary containment



STPUD Press Release

SOUTH LAKE TAHOE, Calif. - Rain-on-snow events bring unique challenges to wastewater operations in Lake Tahoe. As streets and meadows flood, stormwater seeps through manholes and into the sewer system. This inundates wastewater pump stations and the wastewater treatment plant, increasing the risk of sewer spills.

During this week's atmospheric river, South Tahoe Public Utility District worked every day around the clock to address challenges and ensure reliable water and wastewater services.

On Friday night, an avalanche on the south end of Fallen Leaf Lake destroyed the District's backup generator building that supplies power to wastewater pump stations.

"Providing reliable wastewater services is all about redundancy, meaning we have a backup plan for all our facilities," said Chris Stanley, manager of Field operations. "When an avalanche took out the powerlines AND the backup power supply, we had to get creative."

On Saturday morning, District staff assessed the damage and brought in a generator to power the pump station that services Stanford Camp. They continue to refuel the generator daily while checking in and out with El Dorado Sheriff's Office for avalanche safety.

Throughout town, flooded streets and meadows continue to impact sewer operations. A sewer pump station located on the meadow in the Al Tahoe neighborhood is of particular concern. On Saturday morning, the station was under multiple feet of water. Working with a local contractor, Haen Constructors, the District built a temporary containment structure around the station and installed pumps to divert stormwater. The District is also installing containment structures and sandbags around flooded manholes in the meadow to reduce inflow into the sewer system.

Collaboration is key during emergency situations. The California Tahoe Conservancy, CalFire, Lahontan Regional Water Quality Control Board, Tahoe Regional Planning Agency, Northwest Hydraulics, and the District are working together to identify options to help alleviate flooding impacts in this area.

South Lake Tahoe's wastewater treatment plant is designed to treat up to 7.7 million gallons per day and averages 4.5 million gallons per day in March. At the height of this storm, up to 13.5 million gallons per day of wastewater were flowing into the plant.

"The plant did exactly what it is designed to do to protect our environment during this massive storm," said John Thiel, general manager. "We treated what we could and pumped the excess influent to our emergency retention basins, which can hold over 54 million gallons."

During this storm cycle, approximately 7 million gallons were stored in the emergency retention basin and will be drawn down once flows into the wastewater treatment plant subside.

South Lake Tahoe's recycled water is exported to Alpine County where it is stored in a reservoir during the winter and released for agricultural irrigation in the summer. In recent weeks, heavy snow and ice buildup blocked irrigation canals causing localized flooding. The District is working with another contractor, White Rock Construction, to clear ditches of ice to alleviate flooding and prepare for releasing water from the reservoir this spring.

With another storm on the horizon, the District continues to stage backup pumps and generators to ensure reliable service. Please help keep stormwater out of the sewer system by running sump pumps to storm drains and keeping manhole covers closed.

For questions or concerns about South Lake Tahoe's wastewater system, visit stpud.us or call 530-544-6474.



[News](#)

https://www.2news.com/news/local/downtown-reno-installs-portland-loo-restroom-number-two/article_9c6677f8-c3a7-11ed-b58b-c301448157ab.html

FEATURED | TOP STORY

Downtown Reno Installs 'Portland Loo' Restroom Number Two

Faith Evans
Mar 16, 2023



The City of Reno has opened a new bathroom along the Truckee River. And it has people talking about how few public restrooms there are near downtown.

The City of Reno is feeling the duty to tackle its downtown bathroom shortage and it took a big step toward that goal Thursday morning, cutting the ribbon on its second “Portland Loo” restroom.

It’s a latrine that’s not meant to look overly welcoming. With open grating along the top and bottom, and a handwashing station outside the bathroom, Iris Jehle-Peppard, executive director of One Truckee River, says it encourages people to be quick with their business.

“It really helps to have the community enforce people to keep moving along,” she said.

The restroom is named after the city that birthed the concept. Over a decade ago, the City of Portland installed its first loo, and the lavatory is still standing.

Jehle-Peppard said the design is meant to withstand an “urban environment,” with graffiti-resistant walls, “sharps disposal” for needles, and an easy-to-clean setup.

It’s a stark contrast to areas like Pickett Park on Mill Street, where the traditional brick-and-mortar restrooms have been closed due to graffiti and disrepair. Park-goers say that folks who set up encampments in the restroom made them unusable, but having them indefinitely closed is equally troublesome.

“People have to use the restroom. and it’s better that they use the facilities instead of use the outdoor tree,” said Craig Gray, who travels the city by bike and often can’t find convenient bathrooms.

Reno’s Portland Loos are taking a crack at that exact problem. Brodhead Park got its loo in August 2020, and since then, human fecal matter in the area has decreased 73 percent.

Though it’s suffered some dents and graffiti, Jehle-Peppard says it’s been a success, with an average of 30 flushes per day.

The city has also maintained the right to terminate its agreement with One Truckee River and Truckee Meadows Water Authority if the restroom in John Champion Park ever becomes a nuisance.

Though, the man who cleans the restrooms thinks they’re the opposite of a nuisance.

“They’re a gift to the community and to the homeless,” said Reno Ard, with the Reno Initiative for Shelter and Equality.

He visits Reno’s Portland Loos twice a day to wash the facilities. Ard has experienced homelessness himself, so he knows firsthand the difficulties of searching for a restroom downtown.

“It’s an honor to be able to (clean the loo), and I’m thankful that they chose me. I’ve come every day, no matter how deep the snow was because people depend on it,” he said.

Looking forward, One Truckee River has its eyes on nine more Portland Loos for downtown Reno, with one planned for City Plaza in 2024.

Original Story, posted March 15:

The region’s second “Portland Loo”, a new public restroom facility near the Truckee River, will open on March 16th.

A ceremony will take place at 11 a.m. at John Champion Park, 975 Kuenzli Street. The public is invited to attend.

This opening marks the second public restroom installed as part of an effort to increase public restrooms near the Truckee River. The first Portland Loo opened to the public in August 2020 at Brodhead Memorial Park.

“With the two-year success of the first Portland Loo at Brodhead Park, we are happy to complete the installation of a second one at John Champion Park,” said Iris Jehle-Peppard, One Truckee River Executive Director.

“This is a goal many have been working towards for a long time. It’s gratifying to see it come together in a way that will serve our community on several levels—particularly in the usability of our public spaces and protection of the environment in and around the Truckee River.”

Faith Evans

Reporter

Impressive snowpack notwithstanding, drought impacts persist in Nevada

By: **Nevada Current** March 16, 2023



NRCS snowpack survey. Image: Ty O'Neil / This Is Reno.

by Jeniffer Solis, [Nevada Current](#)

Federal water managers are increasingly optimistic about Nevada's water outlook due to a handful of storms that dropped several feet of snow, but warn that drought impacts have continued to persist.

Winter is delivering an incredible snowpack to Nevada and surrounding states, setting the state in a good position to meet water demands in the summer.

Most of the annual stream flow in the western United States originates as snowfall that accumulates in the mountains during the winter. As the snowpack accumulates, hydrologists can estimate the runoff that will occur when the snow melts.

Major sources of water for Nevada — including the Sierra Nevada mountains, the Upper Colorado Basin, and Spring Mountains — have accumulated snowpacks well above typical ranges. The Carson and Walker basin snowpacks are poised to jump past 2017's record setting peak if storms continue to perform as expected. March snowpack in the Upper Colorado Basin has also exceeded its median peak.

Across most of Nevada, monthly precipitation has been greater than normal every month since the start of November, according to the [latest data](#) from the U.S Department of Agriculture. And weather forecasts for March predict another month of wet weather.

All indications point to plentiful river flows this spring and summer. Water managers also said prolonged snowmelt into summer should help meet irrigation demand and leave reservoirs with good carryover storage in the fall.

However, recent studies show that extreme spring heat waves have [accelerated melting rates of mountain snowpacks](#) across the West, making water supplies unpredictable. As climate change continues to thro le Nevada, state agencies are bracing for unpredictable circumstances, including record dry years and record wet ones.

Researchers also warned that one good winter will not be enough to make up for decades of drought.

Southern Nevada experienced a drier February than normal, and water storage in Lake Mead has a long way to go.

Key river channels have also remained dry, including the lower Humboldt River. Colton Brunson, the water Commissioner for the Nevada Division of Water Resources, reported about 35 miles of dry channel with no flow on the Humboldt River.

Still, colder than normal temperatures and rain in Nevada has helped saturate the soils and primed them for healthy water runoff in the future. The only area in the state with below normal soil moisture continues to be the Snake Valley basin in White Pine County.

Water managers predict that snow melt could significantly increase reservoir storage throughout the state in the spring. In the Truckee Basin, stream flow forecasts predict enough water to fill Prosser and Boca reservoirs, and with a few more storms filling Stampede Reservoir may also be possible, according to the report.

AMANDA HOOVER SCIENCE MAR 17, 2023 7:00 AM

The Filthy Truth About Your Tap Water

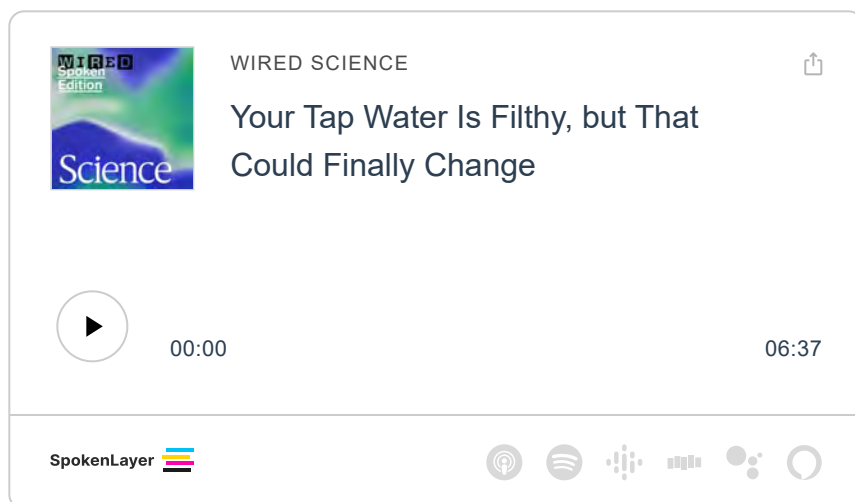
The US is proposing bold action to clean thousands of “forever chemicals” out of drinking water. It’s long overdue.



PHOTOGRAPH: MICHAEL BLANN/GETTY IMAGES

FOLLOWING YEARS OF concern, the US Environmental Protection Agency moved this week to clean up drinking water, announcing the nation’s first standards for six “forever chemicals” found in tap water. It’s a foreboding and informal name for human-made chemicals that coat nonstick pans, food packaging, and waterproof clothes before ending up in the water you drink. These chemicals, known as PFAS, or per- and polyfluoroalkyl substances, are pervasive and found in pretty much everyone—even newborn babies.

If the EPA rule is finalized, public water companies will need to monitor for the chemicals and keep two widely studied ones, PFOA and PFOS, below levels of 4 parts per trillion—around the lowest threshold measurable. The rule will also regulate combined amounts of four other types of PFAS chemicals.



Experts say the proposal is monumental. It marks not just the first US national standard for regulating levels of these chemicals, but would also allow for widespread data collection to see which communities are most affected by contamination. Implementing these much needed fixes could take years and will be costly. Still, experts see this as a significant first step in pushing back against the PFAS problem, and one that could vastly improve water quality across the nation.

“These are very strong, health protective, and a historic move to really limit exposure to contamination from these chemicals,” says David Andrews, a senior scientist at the Environmental Working Group, a nonprofit focused on health and environmental advocacy. “There are lots of opportunities to build off of this.”

The PFAS regulation is not yet a reality; it's a proposed measure that could be finalized this year after a public comment period. If it is formally adopted, it will result in new expenses for many public water systems, requiring not only testing but filtering water when contaminants are detected. The utilities would have three years to comply with the rule, so some communities might not see results until 2026.

The dangers of PFAS chemicals have become increasingly clear. High levels of exposure can cause fertility issues, developmental delays in children, and reduced immune responses, according to the [EPA](#). They can also elevate the risk of several cancers, including prostate, kidney, and testicular cancer.

The US National Academies of Sciences, Engineering, and Medicine released a [report](#) in 2022 saying health care providers should counsel and test patients who are more likely to have elevated PFAS exposure based on where they live or work. And EPA officials estimate that cleaning up the water will prevent thousands of deaths—and tens of thousands of cases of serious illness—in the US.

Regulating the two commonly studied chemicals, as well as four additional ones, is “a really important first step,” says Katie Pelch, a scientist with the Natural Resources Defense Council (NRDC), a nonprofit environmental advocacy group. But there is more to learn about this vast group of chemicals and their prevalence. “This is still just a proposal to regulate six PFAS out of a class of thousands of chemicals,” she continues. The processes to remove PFAS could also tackle other chemicals found in drinking water, such as those from pharmaceuticals, flame retardants, and consumer products.

Still, EPA-mandated testing would provide a valuable close-up look at how prevalent these chemicals are. In the US, PFAS contaminants have been detected in more than 2,800 locations in all 50 states and two territories, according to data from the [Environmental Working Group](#). A 2020 [study](#) found that as many as 200 million Americans may be exposed to PFAS in drinking water.

But there are areas that have not done testing, obfuscating the full extent of the problem, says Laurel Schaider, a senior scientist at the Silent Spring Institute, a nonprofit that researches links between chemicals and women's health. “That alone is going to be a game changer,” Schaider says.



PFAS are more prevalent in communities near manufacturing plants, airports, and wastewater treatment centers—all of which tend to be lower-income areas. If mandated testing begins, it could uncover vast disparities in PFAS concentrations.

The EPA proposal is far more aggressive than a patchwork of existing regulations in US states like Massachusetts and Michigan, and experts say it may be the strongest to date around the world. It comes on the heels of action by the European Union, which updated its Drinking Water Directive in 2021 and set a combined PFAS limit of 500 nanograms per liter (equivalent to 500 parts per trillion) for drinking water. Canada recently proposed a new standard that would set the combined limit at 30 nanograms per liter (30 parts per trillion).

The World Health Organization has also released a new recommendation for limits of 100 parts per trillion for PFOA and PFOS in drinking water. The EPA's proposed caps for those chemicals are much stricter, at just 4 parts per trillion. More than 100 scientists signed a letter criticizing the health agency for what they saw as a recommendation that ignored research and set limits too high. The discrepancy between WHO and EPA standards could lead some countries to set limits far above what scientists consider safe.

Other water quality issues have persisted despite existing regulation. In the US, the Safe Drinking Water Act, passed in 1974 and since amended, regulates more than 90 contaminants found in tap water. But a 2017 report by the NRDC found that 80,000 violations of the act had been reported in 2015, affecting an estimated 77 million people and spanning 18,000 water systems.

Regulators should also “think upstream,” when it comes to protecting people against forever chemicals, says Schaider. That means stopping their production and reducing their presence in the water system—not just filtering them out. The European Union is evaluating a proposal to ban the production and use of 10,000 PFAS chemicals. That's the kind of action the US needs to take next, experts say. “Setting a drinking water standard is at the last step,” says Schaider, “after the contamination has happened.”

-  Don't miss our biggest stories, delivered to your inbox every day
- The unbelievable zombie comeback of analog computing
- How a major toy company kept 4chan online
- Feral hogs are the invasive menace you've never thought about
- Take your ChatGPT prompts to the next level
- How to mute everyone on social media
-  Our Gear team sounds off on audiophile-grade speakers, vinyl accessories and the best wireless headphones for anyone



Amanda Hoover is a general assignment staff writer at WIRED. She previously wrote tech features for Morning Brew and covered New Jersey state government for *The Star-Ledger*. She was born in Philadelphia, lives in New York, and is a graduate of Northeastern University.

STAFF WRITER 

TOPICS WATER ENVIRONMENT CHEMICALS HEALTH PUBLIC HEALTH POLICY GOVERNMENT POLLUTION

MORE FROM WIRED



LOGIN



Newsletters

SUBSCRIBE

MENU



ENVIRONMENT EXPLAINER

Is tap water safe to drink? Here's what you really need to know.

Experts weigh in on the chemicals that can be found in drinking water, how it's regulated, and what you can do if you're worried about your water.

An employee at a San Diego water treatment facility tests the water for contaminants. Most people living in the U.S. have access to clean drinking water, but a small percentage amounting to millions of people are exposed to contamination every year.

PHOTOGRAPH BY DONALD MIRALLE, THE NEW YORK TIMES/REDUX

BY SARAH GIBBENS



ADVERTISEMENT

PUBLISHED MARCH 20, 2023 • 9 MIN READ

Most U.S. residents don't need to worry about the safety of their tap water, but millions of Americans are still exposed to contaminants every year.

It can take a water crisis to highlight where drinking water infrastructure is failing.

One of the most devastating water crises in recent memory was the lead contamination in Flint, Michigan's drinking water in 2014. As of January

2023, nine years after the initial contamination, residents are still dealing with the effects. And last year, a water crisis in Jackson, Mississippi left many of the city's 150,000 residents without potable water, a problem that persists today.

Here, drinking water experts from the EPA, academia, and advocacy groups weigh in on what you need to know about your tap.



Government officials tour a water treatment facility in Maplewood, Minnesota. There are over 50,000 water treatment plants in the U.S., and many serve only a couple hundred people. One solution to prevent contamination, say experts, is combining small facilities to creat...

[Read More](#)

PHOTOGRAPH BY ALEX KORMANN, STAR TRIBUNE/GETTY IMAGES

ADVERTISEMENT

What are some of the common things in tap water—other than water?

In the U.S., about 90 percent of people get their tap water from a public water system (PWS). Water from a lake, reservoir, river or aquifer is piped into a water treatment facility where chemicals are added to the water that bind to pollutants and are sifted out of the system. Some facilities also use bacteria-killing UV light.

Chemical disinfectants such as chlorine or chloramine are then added to the water to help kill any pathogens remaining in the water and any that might be lurking in your pipes when the water travels to your home.

Some water treatment facilities, from lack of funding or too little oversight, don't effectively clean their water. In 2015, about 21 million people living in the U.S. were exposed to tap water that violated federal guidelines, according to a [study](#) published in 2018.

Unsafe and therefore illegal levels of pathogens (bacteria and viruses), nitrates, arsenic, and harmful byproducts from disinfectants like chlorine were the most common sources of violations, says Maura Allaire, study author and a water quality expert at the University of California, Irvine.



Jabari Omari, a City of Jackson employee, hands out cases of bottled water at a Mississippi Rapid Response Coalition distribution site on August 31, 2022 in Jackson, Mississippi. The city experienced a water crisis after floods disrupted the local water supplier.

PHOTOGRAPH BY BRAD VEST, GETTY IMAGES

ADVERTISEMENT

How is tap water regulated?

In 1974, Congress passed the Safe Drinking Water Act, which gave the Environmental Protection Agency (EPA) the authority to regulate public tap water.

When something like lead, for example, is shown to be harmful to human health, the EPA can set a limit for how much is allowed in water supplies. Limits are based on what amount is safe for human consumption and what is technologically feasible for water treatment facilities to accomplish.

But these limits don't always result in water that is contaminant free.

"There's a gap between what is legal and what is safe," says Sydney Evans, a science analyst at the Environmental Working Group (EWG). She adds

that many regulations are based on decades-old science, which the [EWG](#) [has argued](#) makes regulations outdated and insufficient.

The EWG maintains their own [tap water database](#) where they set much stricter limits than the EPA, based on what they consider to be safe for human health. Their limits are determined by peer-reviewed studies, research done by state agencies, and staff scientists.



Shanice Ollie washes dishes with boiled bottled water, a process that can take an hour or more, at her home in Flint, Michigan in 2016. Flint's water crisis was caused by corrosive water leached lead from the pipes supplying water to people's homes.

PHOTOGRAPH BY BRITTANY GREESON, THE NEW YORK TIMES/REDUX

ADVERTISEMENT

What are PFAS, the latest chemicals to get EPA attention?

Type “drinking water” into your search bar, and lately you’re likely to see articles about how it’s full of PFAS, pollutants sometimes referred to as “forever chemicals.” [PFAS](#) (per-and polyfluoroalkyl substances) is a group of thousands of chemicals with tight chemically-bound bonds that help them last in the environment for years.

Certain PFAS compounds have been [linked to serious health issues](#), such as cancer. Recently, the EPA proposed new limits on six of these chemicals in drinking water. Studies conducted on drinking water show PFAS is [common in drinking water supplies](#) throughout the U.S., and as a result, these chemicals have been found in our [blood](#).

The [EPA rules](#) proposed this month would be the first to meaningfully address PFAS pollution at the federal level and paves a way to remove a toxin that’s been contaminating drinking water for decades.

What about other unregulated contaminants?

New rules for currently unregulated contaminants will take time. PFAS, for instance, have been a known hazard for years, but it required large amounts of evidence and research before a rule could be proposed.

“There is a significant challenge,” Eric Burneson, a director at the EPA’s Office of Ground Water and Drinking Water, says of proposing new regulations. “We need robust scientific information, and we need peer review of that information. We need to know about our ability to manage it. Can we measure it? Can we treat it?”

Answers to these questions help the EPA defend the potential cost of regulating a new chemical.

In addition to the 90 contaminants the EPA already regulates, there are dozens more the agency has identified as a threat to health and in tap water. They include 66 chemicals, 12 microbes, and all PFAS—instead of the six they recently proposed to limit.

ADVERTISEMENT

“We need further information to move forward,” says Burneson of regulating potentially harmful chemicals, but he adds, “They may be in drinking water, and they pose risks.”

Who’s impacted the most by contaminated drinking water?

Rural, low-income communities face the most trouble accessing clean tap water; water treatment facilities there are most likely to violate EPA standards. Proximity to agricultural pollution, contaminated groundwater, and underfunded or understaffed treatment facilities put these communities at risk.

An analysis of three decades of drinking water violations in the U.S. found some states were more likely to have poorer quality drinking water than others. States with agricultural hubs were particularly at risk.

Certain racial groups are also more likely to be exposed to poor drinking water. One study looking at California and Texas found Latino and Black communities faced a persistently higher cancer risk from their drinking water.

(An environmental advocate weighs in on inequality and safe drinking water.)

What can you do if you’re concerned about your tap?

The EPA requires water utilities to publish annual reports identifying any potential health hazards in the community about their water supply. (You can find yours [here](#).)

When hazards emerge, securing clean drinking water can cost individuals.

For short-term emergencies like a boil water notice, bottled water can be a useful resource.

[Bottled water](#) bought and sold in the U.S. is regulated by the Food and Drug Administration, which regulates water based on the same standards the EPA has in place for tap water. [Studies](#) done on bottled water have found it's no cleaner or safer than well-regulated tap water, but it is sold at several times the price of tap water and promotes plastic waste, an [emerging drinking water threat](#).

ADVERTISEMENT

Filters are another option for addressing tap water concerns. They can be as simple as the relatively inexpensive filters that fit in your fridge or as complex as a thousand-dollar filtration system hooked up to home plumbing.

How do we make sure everyone has clean drinking water?

There are about 3,000 electric utilities in the U.S. but over 50,000 water utilities. While some serve as many as eight million people, about half of those facilities serve fewer than 500. Those smaller utilities are less likely to have full time operators or enough customers to pay for maintenance.

With the right policies and enough funding, experts say clean tap water can be guaranteed for everyone.

“We have the technical know-how to provide safe drinking water,” says Allaire. “It’s a policy question of how do we make this a reality?”

Combining those smaller utilities, creating water contracts where one community purchases water from a larger utility, and paying for well-trained facility managers could all create more water for more communities.

A new [World Water Map](#) allows people to [find out about the water supply where they live](#). Typing in an address will reveal that area’s water gap—the difference between human demand for water and the renewable supply from

sources such as rivers, lakes, and aquifers. The map—which was developed by National Geographic Explorer Marc Bierkens and Niko Wanders, with the support of the National Geographic Society, Utrecht University, and ESRI—also shows the regions where the water gap is highest and groundwater depletion most dire, including California’s Central Valley, Egypt’s Nile River Delta, and Pakistan’s Indus River Basin.



SHARE



TWEET



EMAIL

READ THIS NEXT



ENVIRONMENT PERPETUAL PLANET

Cliff art reveals the majesty of the Amazon’s aquatic...

In a two-year expedition, a National Geographic photographer is documenting the mighty river and the greater ecosystem from the Andes to th...



MAGAZINE INTERACTIVE GRAPHIC

The Earth’s population is booming. It might not last—here’s why.



ENVIRONMENT

A giant mass of seaweed threatens beach season in the U.S.



HISTORY & CULTURE

The woman who helped save Egypt's temples from doom

ADVERTISEMENT

GO FURTHER

ANIMALS

ANIMALS

Why are these orcas killing sharks and removing their livers?

ANIMALS

How sharks equipped with cameras solved an aquatic mystery

ANIMALS

A look at nature's most sophisticated stingers

AN

The no

ENVIRONMENT

ENVIRONMENT PERPETUAL PLANET

Cliff art reveals the majesty of the Amazon's aquatic realm

ENVIRONMENT

The delicate art of catching fog in the desert

ENVIRONMENT

Is tap water safe to drink? Here's what you need to know.

ENV

**A g
be**

HISTORY & CULTURE

HISTORY MAGAZINE

How Catherine really became 'The Great'

HISTORY & CULTURE

The truth behind 5 St. Patrick's Day symbols

HISTORY & CULTURE

The Ides of March—a day of murder that forever changed history

HIS

Wh
sist

SCIENCE

SCIENCE

Weight-shaming backfires—why do people keep doing it?

SCIENCE MIND, BODY, WONDER

Delay death with tech? These innovations are promising.

SCIENCE MIND, BODY, WONDER

Are you a 'lark' or an 'owl'? Your body clock holds the answer.

SCI

Wh
col

TRAVEL



TRAVEL

Paganism is on the rise—here's where to discover its traditions

PAID CONTENT

A journey of the senses through Abu Dhabi

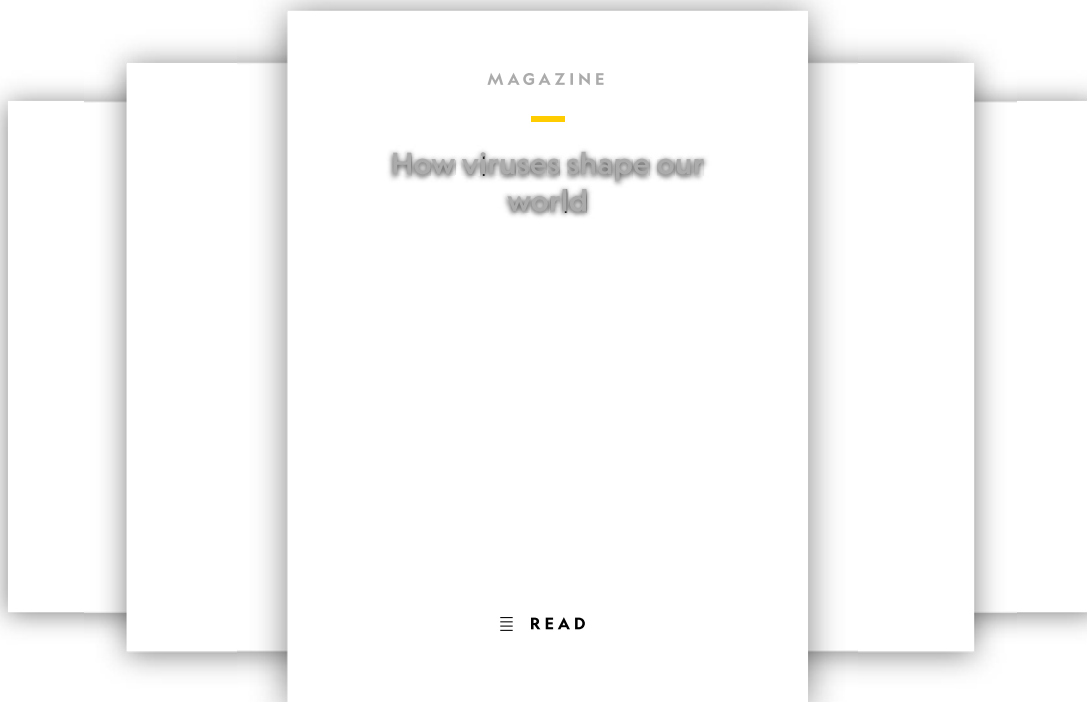
TRAVEL

How to eat in 6 of the world's most stunning places

PA

Eve
We

SUBSCRIBER EXCLUSIVE CONTENT



[SEE MORE](#)

THE BEST OF NATIONAL GEOGRAPHIC DELIVERED TO YOUR INBOX

Sign up for more inspiring photos, stories, and special offers from National Geographic.

Email Address

Yes! I would like to receive updates, special offers, and other information from National Geographic and The Walt Disney Family of Companies. By creating an account, you agree to our Terms of Use and acknowledge that you have read our Privacy Policy and US State Privacy Rights Notice.

SIGN UP

LEGAL

- [Terms of Use](#)
- [Privacy Policy](#)
- [Your US State Privacy Rights](#)
- [Children's Online Privacy Policy](#)

OUR SITES

- [Nat Geo Home](#)
- [Attend a Live Event](#)
- [Book a Trip](#)
- [Buy Maps](#)

JOIN US

- [Subscribe](#)
- [Customer Service](#)
- [Renew Subscription](#)
- [Manage Your Subscription](#)

FOLLOW US

 [United States \(Change\)](#)

[Interest-Based Ads](#)

[About Nielsen Measurement](#)

[Do Not Sell or Share My Personal Information](#)

[Inspire Your Kids](#)

[Shop Nat Geo](#)

[Visit the D.C. Museum](#)

[Watch TV](#)

[Learn About Our Impact](#)

[Support our Mission](#)

[Nat Geo Partners](#)

[Masthead](#)

[Press Room](#)

[Advertise With Us](#)

[Work at NatGeo](#)

[Signup for Our Newsletters](#)

[Contribute to Protect the Planet](#)

[Pitch a Story](#)



Copyright © 1996-2015 National Geographic Society | Copyright © 2015-2023 National Geographic Partners, LLC. All rights reserved

EQUILIBRIUM & SUSTAINABILITY

Nearly two-thirds of California is now drought-freeBY SHARON UDASIN - 03/16/23 4:19 PM ET

Thanks to a series of repeat rainfall and snow events this season, nearly two-thirds of California is now drought-free, new data revealed on Thursday.

Just 36.42 percent of the Golden State is now experiencing drought — a massive plunge from the 100 percent at this time last year and the 99.76 percent on the fall start date of the so-called “water year,” according to the U.S. Drought Monitor.

“Slight improvements over the last week, major improvements since the beginning of the water year,” the National Weather Service’s Bay Area branch stated in reference to Oct. 1, 2022.

Across California, just 27.93 percent of the state is experiencing moderate drought, while only 8.49 percent is enduring severe drought, the Drought Monitor reported. No areas are currently under extreme or exceptional drought conditions.

Meanwhile, 63.58 percent of the state has escaped drought entirely — with 44.6 percent of the state showing zero dryness at all and 18.92 percent coping with “abnormally dry” but not drought conditions.

“Two atmospheric river events struck California and portions of neighboring states, with the second arriving as the drought-monitoring period ended,” the Drought Monitor said in a statement.

“Rain, along with melting of lower-elevation snowpack and dam releases, also led to significant water rises along many waterways in California’s Central Valley,” the statement continued.

Meanwhile, the average mid-March snow water equivalent — the amount of water contained in snow — of high-elevation Sierra Nevada snowpack climbed to more than 220 percent of seasonal norms, the agency added.

In line with the huge amounts of rainfall that have washed over the state this season, the Metropolitan Water District of Southern California (MWD) announced on Wednesday that it was rescinding all water use restrictions.

Acknowledging significant improvements in availability of state water supplies, MWD warned that storage reserves have been drawn down and that challenges remain in the region’s other source of imported water — the Colorado River.

McCarthy hails ‘peace’ in meeting with Taiwan’s Tsai as China fumes
Pelosi offers McCarthy rare praise after his meeting with Taiwan president

As such, MWD called upon residents and business to continue using water efficiently and to prepare for potentially steep cuts from Colorado River supplies.

“Southern California remains in a water supply deficit,” Tracy Quinn, chair of MWD’s One Water Committee, said in a statement.

“The more efficiently we all use water today, the more we can keep in storage for a future dry year,” Quinn added. “And as we face climate whiplash, dry conditions could return as soon as next year.”

Copyright 2023 Nexstar Media Inc. All rights reserved. This material may not be published, broadcast, rewritten, or redistributed.



Nevada to add gas plant as drought threatens power grids

March 21, 2023 at 2:07 pm | Updated March 21, 2023 at 2:07 pm

By [RIO YAMAT](#)

The Associated Press

LAS VEGAS (AP) — Utility regulators in Nevada gave the state’s largest power provider clearance to start work on a \$333 million project to build a natural gas plant in the state for the first time in nearly 15 years, signaling yet another consequence of the extreme drought conditions in the southwestern U.S.

The two gas-fired turbines to be erected north of Las Vegas by NV Energy are expected to come online by July 2024 amid hotter summers and longer wildfire seasons in a state that aims to have a carbon-free power grid by 2050.

Nevada’s Public Utilities Commission approved the plans last week. It said the turbines are needed to address peak electricity demand in the summer months, as ever-drying conditions in the West continue to stress the region’s power grids and slash hydroelectric output, including the behemoth power producers on the Colorado River — the Hoover Dam and Glen Canyon Dam.

But environmental advocates have argued that the turbines mark a major step backwards for Nevada’s climate goals.

“Both the state and the utility have set strong goals to transition to renewable energy,” said Angelyn Tabalba, a spokesperson for the Nevada Conservation League. “Instead of doubling down on fossil fuels, they should be leaning into a clean energy future.”

Mike O’Boyle, senior director of electricity policy at the Bay Area-based Energy Innovation firm, said the commission’s decision underscores a growing tension across the American Southwest.

“We’ve always dealt with annual variability when it comes to hydroelectric power in the West. How much of it we have really depends on the snowpack and what happened in

the winter and spring,” O’Boyle said. “It’s not a new issue, but it’s been exacerbated by the drought. Unfortunately it’s a new major contingency that utility providers have to plan for.”

At least 21 other states, as well as the District of Columbia and Puerto Rico, have goals to reach 100% clean energy between 2040 and 2050, according to the Clean Energy States Alliance.

But as those deadlines approach, scientists say the megadrought gripping the southwest is the worst in 1,200 years, putting a deep strain on the Colorado River. If states don’t begin taking less out of the river, major reservoirs threaten to fall so low they can’t produce hydropower or supply any water to farms that grow crops for the rest of the nation and cities like Las Vegas, Los Angeles and Phoenix.

Last March, for example, Lake Powell in Utah and Arizona dipped below a critical threshold, raising new concerns about the Glen Canyon Dam, a source of power that millions of people in the West rely on for electricity. If power production ceases at the dam, rural electric cooperatives, cities and tribal utilities would be forced to seek more expensive options that could include fossil fuels.

Already, Nevada has retired its largest coal plant, while the North Valmy coal plant is scheduled to shut down its remaining units by 2025.

Another coal plant was expected to be converted by early this year for natural gas output. Representatives for the TS Power Plant, which runs the facility, did not respond to an email from The Associated Press seeking an update on the project.

About 60% of Nevada is now powered by natural gas and 30% by renewable energy resources. Natural gas is composed primarily of methane, a greenhouse gas about 25 times more powerful than carbon dioxide in trapping heat in the atmosphere, according to the Environmental Protection Agency.

But NV Energy said the turbines will have minimal carbon dioxide emissions because they will only operate in the summer months — or for about 700 hours annually — and therefore won’t hinder the state’s carbon-free goals.

“Along with our commitment to reduce emissions, NV Energy is committed to providing reliable and affordable energy for our customers,” Katie Nannini, a spokesperson for the power company, said in a statement. “This decision ensures that NV Energy can reliably

provide energy for Nevadans, especially during the State’s hottest months from June to September.”

Ratepayers will foot the project’s bill once the plant is operational, according to NV Energy’s plans submitted to the Public Utilities Commission.

The turbines will be built at NV Energy’s existing Silverhawk Generating Station gas plant in Moapa, about 30 miles (48 kilometers) north of Las Vegas. The Harry Allen Generating Station, also in Moapa, was the last gas-powered plant constructed by the energy provider in 2011.

RIO YAMAT

The Seattle Times does not append comment threads to stories from wire services such as the Associated Press, The New York Times, The Washington Post or Bloomberg News. Rather, we focus on discussions related to local stories by our own staff. You can read more about our [community policies here](#).

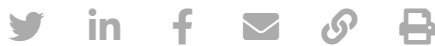


NATIVE AMERICA SUSTAINABILITY

How NV tribes are saving Lahontan cutthroat trout from extinction

BY: JENIFFER SOLIS - 7:42 AM

 Transferring juvenile Lahontan cutthroat trout into Pyramid Lake near the spawn channel in Sutcliffe, NV. (Photo courtesy Pyramid Lake Fisheries)



Thousands of captive-raised specimens of the largest cutthroat trout species in North America are released into Pyramid Lake every year, but despite the trout's size and might, they are also one of the most threatened.

Decades of overfishing, dam building, water diversion, and other human actions have set the Lahontan cutthroat trout up for unrelenting population decline.

Populations of the threatened Nevada fish have only continued to decline in the last decade, according to a recent review by federal wildlife managers.

A new status report released by the U.S. Fish and Wildlife Service (FWS), determined that only five of 71 populations of Lahontan cutthroat trout are considered resilient, and less than half are likely to be resilient into the future.

But within the rows of troubling data on the steady decline of the native trout is one compelling detail: two of the most resilient populations of Lahontan cutthroat trout are managed by the Pyramid Lake Paiute Tribe and the Summit Lake Paiute Tribe.

In fact, the largest and most resilient population of the trout across the entire Great Basin is in Summit Lake, located entirely within the Summit Lake Reservation.

Missing from the FWS report are details of the work both the Summit Lake Paiute Tribe and the Pyramid Lake Paiute Tribe have done to preserve the trout and its habitat for decades, if not centuries – an omission that, tribal officials say, is another footnote in a long history of government agencies sidelining tribes.

“They say we’re partners, but they made no mention of Pyramid Lake Fisheries. They made no mention of what we do here with respect to the Lahontan cutthroat trout,” said Mervin Wright, the executive director of Pyramid Lake Fisheries. “We’ve been doing this year in and year out for the last 41 years, and it’s been successful.”

The data bears that out, at least according to the [FWS status report](#).

The resiliency of the Pyramid Lake Lahontan cutthroat trout population, however, is not self-sustaining. The tribe manages a fish hatchery where the trout are spawned and raised as juvenile trout until they can be released into the lake.

Lahontan cutthroat trout are obligate fresh-water spawners, meaning their eggs can’t survive naturally in Pyramid Lake’s salty waters.

Less than 11% of the stream-dwelling trout are self-sustaining, meaning they don’t need to be supplemented with hatchery-raised fish, while just 0.4% of lake dwellers are self-sustaining, according to the U.S. Fish and Wildlife Service.

A century ago, swarms of Pyramid Lake fish would swim far up the Truckee River to safely lay their eggs in the pebbly bottoms of the freshwater river. But a badly planned diversion dam on the river blocked the trout from their native spawning grounds, making the trout functionally extinct from Pyramid Lake by the 1940s.

The Derby Dam was completed in 1905, and diverted half of all Truckee River water to agricultural fields near Fallon, greatly destabilizing the lake and its inhabitants. By 1967, Pyramid Lake dropped by an estimated 80 feet.



Missing from the Fish and Wildlife Service report are details of the work both the Summit Lake Paiute Tribe and the Pyramid Lake Paiute Tribe have done to preserve the trout and its habitat for decades, if not centuries. (Photo by Joanna Gilkeson for the USFWS Pacific Southwest Region)

Lahontan cutthroat trout is one of a few species of trout native to Nevada and inhabited the ancient Lake Lahontan and its tributaries during the ice ages until the lake shrank to remnants like Pyramid Lake about 7,000 years ago. The Summit Lake Paiute Tribe and the Pyramid Lake Paiute Tribe have a deep cultural connection to the trout.

Large trout populations in both lakes helped sustain the Paiute people once the reservation system was created to cut them off from their traditional homelands and food sources.

How long the trout were truly missing from their home in Pyramid Lake is a question Wright still asks himself.

“We have stories here about my father’s generation, my grandfather’s generation, catching Lahontan cutthroat trout from 1940 to 1960 at Pyramid Lake, but that story was never heard,” Wright said. “Pyramid Lake is a huge lake. It’s hard to believe that someone came out here and surveyed every square foot every cubic yard of this lake and determined there’s not one trout left in this huge body of water.”

What’s always been clear to Wright, however, is that without more water for Pyramid Lake the trout had no chance of survival.

‘It’s because of the tribe’

After a long struggle involving numerous court actions, the Pyramid Lake Paiute Tribe was able to negotiate water allocations with the federal government and protect the lake and fish under the Endangered Species Act of 1967 and the renewal of the Clean Water Act of 1987.

By 1991 the Truckee River Settlement Act was approved by Congress, and required the tribe to be consulted in all decisions involving the Truckee River water. It was another decade before government officials and the tribe reached an operating agreement to manage Truckee River reservoirs. After being wiped out, the Lahontan cutthroat trout successfully spawned in the short stretch of river between Pyramid Lake and Derby Dam for the first time in 80 years in 2012.

“The tribe has secured water, all of the water that is flowing to Pyramid Lake, it’s because of the tribe. The tribe had done all of this work to secure the water that flows to Pyramid Lake,” said Wright, who helped negotiate the operating agreement as the former chairman of the Pyramid Lake Paiute Tribe.

Summit Lake, home of the most resilient population, is free of water diversions which the tribe fought to prevent, leaving Mahogany Creek clear for spawning trout. The lake is also closed to non-tribal members, while tribal members are limited in how many fish they can catch.

Not all populations of the threatened trout have been so lucky.



In the time before humans – the fish and the birds, the plants and the insects – they were the ones that controlled life. They were the ones that controlled survival. Then we came along as humans, we had to learn from them. And we did. But fast forward to today, and I wonder what happened.

- Mervin Wright, former chair of the Pyramid Lake Paiute Tribe

The Lahontan cutthroat trout population living in the North Fork of the Humboldt River have avoided hybridization with non-native fish, but gold mining activities in the watershed have degraded water quality, pelting the fish with toxic chemicals, according to a FWS study. Mining near the North Fork of the Humboldt River has also lowered groundwater levels in the basin due to water removal for construction, severely impacting the trout population.

For these less resilient populations, FWS is looking to develop a genetics management plan to better understand the current genetic health of the trout and how to improve it, including creating gene flow between isolated populations, said Sean Vogt, the Lahontan Cutthroat trout recovery coordinator for the FWS. The agency included a proposal to complete a full genetic assessment of all trout populations in the Great Basin as part of their long-term plan.

“The opportunity to improve the status of Lahontan cutthroat trout is present here, and that is not the case for many species in the West. It is possible to move the species in a positive direction and reverse a declining trend by focusing on those populations,” said Vogt. “These tools will provide the foundational knowledge necessary to prioritize where and how partners focus recovery efforts in the coming years and should improve conservation outcomes prior to the next status review.”

Wright said he thinks the FWS solution is misguided.

“The Fish and Wildlife Service stated they want to use genetic management with a recovery method. They need to work on restoring the habitat and use the natural system, let nature do the selection,” Wright said.

Freshwater fish are particularly vulnerable to population collapse due to their proximity with humans and their limited habitat which is routinely modified, said Wright. For a reintroduction to succeed in the long term, Wright explained, the habitat must be healthy enough to support the fish. He argues that a better use of FWS funding would be to look into emerging contaminants in the Truckee River.

“In the time before humans – the fish and the birds, the plants and the insects – they were the ones that controlled life. They were the ones that controlled survival. Then we came along as

humans, we had to learn from them. And we did. But fast forward to today, and I wonder what happened,” Wright said.

Tackling greater threats to the trout like habitat degradation, pollution, climate change, and urban development is much more difficult, said Wright, but it’s the only realistic solution.

“Whenever man tries to control nature, man loses and nature is damaged,” Wright said.

You don’t have to look any further than Derby Dam, he added.



REPUBLIC

Our stories may be republished online or in print under Creative Commons license CC BY-NC-ND 4.0. We ask that you edit only for style or to shorten, provide proper attribution and link to our web site.



JENIFFER SOLIS  

Jeniffer was born and raised in Las Vegas, Nevada where she attended the University of Nevada, Las Vegas before graduating in 2017 with a B.A in Journalism and Media Studies.

MORE FROM AUTHOR

RELATED NEWS



Nevada needs tools to stop the extinction crisis

BY **PATRICK DONNELLY**

June 28, 2022



Protecting endangered species by relocating them?

BY **JENIFFER SOLIS**

August 19, 2022

POLICY, POLITICS AND COMMENTARY

DEMOCRACY TOOLKIT



[View this email in your browser](#)



Fishing on the Colorado River from Willow Beach on Thursday, July 7, 2022. (Daniel Clark/The Nevada Independent)

Indy Environment: From ‘forever chemicals’ to septic tanks, lawmakers weigh new environmental laws

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 tips at daniel@thenvindy.com.

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

About one-third of the way through the 120-day biennial legislative session, lawmakers have introduced dozens of bills affecting the management of water, wildlife and the environment. In this week’s newsletter, we break down some of the major bills pending before state lawmakers.

It’s important to note that this list is hardly exhaustive and state lawmakers still have additional opportunities to introduce new bills, even as a major deadline looms next week.

But this roundup will hopefully provide some insight into what's at stake as lawmakers propose a range of policies, from prohibiting the sale of certain products that contain "forever chemicals" to giving the Southern Nevada Water Authority the power to curb excessive water use during Colorado River shortages. If you have an opinion on these bills, here is a good explainer from my colleagues Kristyn Leonard and Tabitha Mueller on [how to participate in the Legislature.](#)

Paid advertisement



WATER

From septic systems to emergency conservation measures, the Southern Nevada Water Authority proposes an omnibus bill: For Las Vegas water issues, [AB220](#) is an important bill to watch during the legislative session. As currently proposed (and it could very well find itself amended), the legislation would transition the Las Vegas Valley away from septic systems, conserving Colorado River water lost in those systems. It would also make changes to the way groundwater is managed in the Las Vegas Valley. And notably, the legislation would give the water authority emergency powers to limit excessive residential water use during a shortage.

A resolution supporting Colorado River action: The Legislature will consider [SJR3](#), a joint resolution declaring its support for a consensus framework — supported by [six of the seven states](#) in the Colorado River Basin — for making difficult cuts to water use later this year. That framework borrowed heavily from a discussion plan first presented by Nevada officials last year.

Creating an account to retire groundwater rights: In many groundwater basins across the state, there are more rights to use water than there is water to go around. [SB176](#), sponsored by Sen. Pete Goicoechea (R-Eureka), would give the state a new tool — and local water users a financial incentive — to address this problem, known as overappropriation. It would create an account for the state engineer, Nevada's top water regulator, to buy back excessive water rights.

or a local groundwater management plan. Last year, the Nevada Supreme Court upheld the state's first groundwater management plan in Diamond Valley, despite the fact that it deviated from a core principle of Nevada water law — that those who claimed water first in time have a priority to water in times of scarcity. [SB113](#), sponsored by Goicoechea, responds to the court's ruling, ensuring the plans follow the “first in time, first in right” principle and placing more guardrails around a plan's goals.

Reducing the presence of pit lakes from mining: In order to reach underground ore, mines often must dig beneath the water table. To keep the pit dry, mines must pump groundwater away from the area where mining occurs. But when mining ceases, the open pit can fill up to create a pit lake. [AB313](#), sponsored by Assemblywoman Sarah Peters (D-Reno), would seek to avoid the formation of pit lakes by requiring new mines and certain existing mines to backfill the excavated pit as part of a mining reclamation plan when technically feasible. The legislation would also make mine projects responsible for reclamation of surface water and groundwater.

A proposal to prohibit restaurants from automatically serving water:

Legislation proposed by Assemblywoman Heidi Kasama (R-Las Vegas), would prohibit restaurants from serving you water automatically when you sit down at a table. Perhaps you want an iced coffee? Or a cherry Coke? You would still be able to drink iced water at restaurants under the proposal, [AB186](#). You would just have to request it. As for compliance, the proposal currently does not assess a fine.



A construction worker during an excessive heat warning on Tuesday, Sept. 6, 2022. (Daniel Clark/The Nevada Independent)

HEAT, POLLUTION, ENVIRONMENTAL JUSTICE

Getting “forever chemicals” out of products: Following other states and building off of a bill passed in the last legislative session, [SB76](#), sponsored by Sen. Dina Neal (D-Las Vegas) would prohibit manufacturers from selling certain products known to contain “forever chemicals,” such as perfluoroalkyl and polyfluoroalkyl, or PFAS. These products

some states and the federal government have taken a [more active role](#) in regulating hard-to-remove “forever chemicals” that accumulate in our bodies and in water. The chemicals have been linked to kidney cancer and birth defects.

Addressing contamination at the Owyhee Combined School: A bipartisan bill sponsored by Assemblywoman Alexis Hansen (R-Sparks) requests nearly \$65 million appropriation to the Elko County School District to replace a school at the Duck Valley Indian Reservation. [AB273](#) would help address contamination at the Owyhee Combined School. The school’s building sits adjacent to toxic hydrocarbon plumes, as the [Las Vegas Review-Journal reported](#) earlier this year, raising concerns about cancer and the safety of students being educated at the school.

Outlawing the ban of “neonicotinoid” pesticides in certain uses: Neonicotinoids are a class of synthetic pesticides, developed in the 1990s, that target the nervous systems of insects. The use of these pesticides, however, have been linked to the population loss of pollinators, with a rippling effect across ecosystems, affecting soils, water and other species such as bats. [AB162](#), a proposal sponsored by Assemblyman Michelle Gorelow (D-Las Vegas), aims to minimize the use of neonicotinoids for plants. The legislation, as amended, aims to generally restrict the use of neonicotinoid pesticides for plants that are not grown for “commercial agricultural purposes.”

Enshrining a right to clean air and water in the Nevada Constitution: [AJR3](#) would begin the process of amending the state’s foundational document to include in it a “right to a clean and healthy environment” that includes clean air and water. The Assembly joint resolution, sponsored by Peters, would require the state to protect these rights in an equitable manner. To make it into the Nevada Constitution, the proposal calling for what is known as “The Green Amendment” must be approved by a majority of lawmakers in two legislative sessions. After that, the language would go before voters, where it must receive a majority for ratification.

Requiring the creation of environmental justice impact statements: When state agencies consider new regulations, they often have to prepare what is known as a “small business impact statement,” assessing the economic burden of the new rules. Legislation sponsored by Peters, [AB312](#), would take the same concept and apply it to the environment. Specifically, the bill would require agencies to prepare an environmental justice impact statement in cases where a new rule is likely to have a disproportionate impact on historically underserved communities. The legislation also proposes creating a Commission on Environmental Justice.

Creating local government plans for heat mitigation in master plans: In many parts of the state, increasing temperatures have had an outsized impact on urban areas, where asphalt and other materials absorb and amplify heat, creating an effect known as the urban heat island. Hot days with excessive temperatures can have a particular impact on vulnerable communities and outdoor workers. [SB169](#), presented by Sen. Fabian Doñate (D-Las Vegas), would require master plans in Clark and Washoe counties to include a heat mitigation strategy. Such strategies could include artificial shade structures, urban forestry, cooling centers and public drinking water.

An interim study on environmental justice issues: Legislation backed by the Joint Interim Standing Committee on Natural Resources, [AB71](#), would require state regulators to conduct a study on environmental justice issues, identifying the communities facing the greatest burdens of environmental harm, including pollution, climate change and limited access to green space.

WILDLIFE AND CONSERVATION:

State Conservation Commission as part of a newly created Healthy Soils initiative. The initiative would help promote regenerative agricultural practices and support soil science, including through the development of a grant program and soil monitoring. Supporters of the legislation note that soils play a critical role in storing nutrients, ensuring productive agricultural fields and filtering out contaminants.

Establishing a fund for wildlife crossings: Across the West, existing roads have fragmented important migratory habitat for mule deer and other species in Nevada. For animals, roads pose huge ecological challenges. For drivers, animal crossings can lead to collisions and sometimes fatal accidents. In recent decades, the Nevada Department of Wildlife and Nevada Department of Transportation have worked to address this through constructing wildlife crossings. [AB112](#), sponsored by the Assembly Committee for Growth and Infrastructure, would help fund wildlife crossing projects, requiring the State Board of Finance to issue up to \$15 million in bonds for the effort.

Clarifies that insects and butterflies are indeed “wildlife:” The Nevada Department of Wildlife identified more than 60 invertebrates as species in need of additional conservation attention as part of an update to its wildlife action plan. The only catch: The department that manages Nevada’s wildlife has no authority to protect and manage bees, butterflies and other insects. They are technically not defined as “wildlife” in statute, a loophole of law that exists in about a dozen states across the U.S. [AB221](#), sponsored by Assemblyman Howard Watts (D-Las Vegas), would change that, clarifying that nonpest aquatic and terrestrial invertebrates are “wildlife.” In doing so, the bill would give the state’s wildlife agency the ability to monitor and work to recover imperiled insect species.

An effort to ban wildlife killing contests: Since the start of 2022, there have been more than a dozen wildlife contests in Nevada, whereby participants compete for prizes to kill the most or largest coyotes and other animals, including foxes and bobcats. Following other states, [AB102](#), sponsored by Watts, would prohibit wildlife killing contests after a similar proposal failed before the state wildlife commission by a narrow 5-4 vote in 2021. Coyote killing contests have been criticized by opponents as barbaric and out of step with wildlife ethics; both Clark County and Reno have passed resolutions to ban wildlife killing contests. But hunters in support of keeping the contests have argued a ban would be an attack on events that have long taken place in Nevada, especially in rural communities. Elko, Lander, Lincoln and Pershing counties all passed resolutions in support of keeping the coyote contests in place.

The creation of an Urban Forestry Program: As cities continue to face increasing heat from warmer temperatures — amplified by asphalt and concrete in the built environment — urban areas have looked at a natural solution for staying a little cooler: trees. [AB131](#), sponsored by Assemblywoman Lesley Cohen (D-Henderson), creates an Urban and Community Forestry Program in the Nevada Division of Forestry. The program, according to the bill, would set targets for urban forests and develop best practices for urban forests. Notably, the program would direct attention to historically marginalized communities. Several studies have shown that the distribution of the urban heat island effect is more pronounced in certain areas of Las Vegas and Reno.

Should the mustang be Nevada’s official state horse? Humans have deep connections with mustangs. To many, they are an icon of the American West, representing freedom, rugged spirit and the expansive sagebrush rangelands that dot the intermountain states. But in many parts of the West, and particularly in Nevada — home to the largest population of free-roaming horses — biologists and rangeland ecologists have documented the overpopulation of mustangs, with significant impacts on ecosystems, riparian areas and even the horse herds themselves. [SB90](#), a bill sponsored by the Senate Committee on Natural Resources, would establish the mustang as the official state horse. Although the



Desert bighorn sheep cross State Route 375 north of Rachel, Nev. on Oct. 17, 2019. (Jeff Scheid/The Nevada Independent)

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

There is so much snow in the eastern Sierra: Consider this statistic included in an *Associated Press* story by Scott Sonner [earlier this week](#): "... this season has now etched its way into the history books as the second snowiest in the 77 years of record-keeping at the Central Sierra Snow Lab — more than 56.4 feet (677 inches, 17.2 meters) with no end in sight."

- *The Elko Daily Free Press* [reported significant flooding in Eureka County](#) last week, with the Red Cross opening up a shelter. More videos and photos of the flood damage and recovery efforts are on the [Eureka County Sheriff's Office](#) Facebook page.
- Recent storms have damaged an emergency spillway at a **state-operated dam in Lincoln County** and roads at another state-operated dam that sits upstream, [The Elko Daily Free Press](#) reported earlier this week. State officials are monitoring the issue.
- The *L.A. Times*' Ian James **on flooding in California's Tulare Lake watershed.**
- **An avalanche in Mono County has** "buried a portion of a major U.S. highway, cut off a string of small communities heavily reliant on one another and stranded food deliveries, mail and even people," [The San Francisco Chronicle's Kurtis Alexander reports.](#)

[Subscribe](#)[Past Issues](#)[Translate ▼](#)

to water and the systemic barriers for tribal governments to enforce those claims to water in court. I highly recommend listening to the [oral arguments](#) in a case that could come down to Justice Amy Coney Barrett as the swing vote. More background on the hearing from *NPR's* [Becky Sullivan](#) and a perspective [in High Country News](#) from attorney Derrick Beetso (Diné).

Sen. Catherine Cortez Masto (D-NV) **reintroduced a bipartisan bill this week to fix a major oversight** in which the Shoshone-Paiute Tribes of the Duck Valley Reservation were unable to receive more than \$5 million in interest associated with a water rights settlement in 2009.

An [excellent story by the Nevada Current's](#) Jeniffer Solis looking at how Native American tribes in Nevada, including the Pyramid Lake Paiute Tribe and the Summit Lake Paiute Tribe, **have worked to restore Lahontan cutthroat trout**, which still face major challenges as a species.

Earlier this week, President Biden established Avi Kwa Ame National Monument, which stretches across about 500,000 acres in Southern Nevada. [Avi Kwa Ame](#), or “Spirit Mountain,” is a spiritual and significant cultural center for Indigenous communities across the Southwest.

Federal regulators give NV Energy incentives for its transmission line, [Utility Dive reports](#).

Reno-based geothermal developer Ormat has **threatened to sue the Biden administration over its listing of the endangered Dixie Valley toad**, the [L.A. Times's Sammy Roth reports](#), taking an in-depth look at the emerging conflict between geothermal and biodiversity concerns.

Thank you for being an *Indy* member!

Your support helps bring vital independent reporting to communities across Nevada. We want to hear from you! If you have comments or suggestions, please [email us](#).

Make an additional donation

*Copyright © 2022 The Nevada Independent
All rights reserved*

Our mailing address is:

7455 Arroyo Crossing Parkway Suite 220
Las Vegas, NV 89113

Want to change how you receive these emails?
You can [update your preferences](#) or [unsubscribe from this list](#).

FEATURED GOVERNMENT WEATHER

Residents warned of spring flooding in Churchill County

By: **Steve Ranson** March 26, 2023



Water flows east of Diversion Dam. Image: Steve Ranson / LVN.

Churchill County residents are being warned that flooding may be more of a problem this spring than six years ago, government officials said Thursday at a town hall meeting at the Rafter 3C Arena.

What was billed as the 100-year flood in 2017 is making an ugly return to western Nevada as one of the deepest snowpacks in decades contains an amount of water exceeding 1 million acre-feet.

That poses a definite problem for the county this spring considering Lahontan Reservoir holds a maximum 319,000 acre-feet when gates are placed at the dam. An acre-foot equals about 326,000

great.

Caleb Cage served as chief of the Division of Emergency Management and Homeland Security adviser during Gov. Brian Sandoval's second term. He is the incident commander for Churchill County's mitigation efforts on managing flooding threats. He said Churchill County has had an amazing response so far in planning for any flooding.

"In 2017, we had two back-to-back floods in January and February," Cage said of the situation in western Nevada.



Cage said two emergency declarations were declared, and the Sierra Nevada experienced intense snowfall followed by a warm spring. Within a five-day period, he said Lahontan Reservoir added 90,000 acre-feet of water. Cage also said the percentage of water in the Sierra Nevada snowpack was 250% to 300% of normal.

"At that time, the Lahontan Reservoir emptied twice before September," he said.

Cage said the response from local government agencies was immediate in 2017 with the availability of sandbags, the clearing of Carson River debris, the installation of culverts under U.S. Highways 95 and 50, construction of berms on Pasture Road and installing a weir and spillway on the V-line canal to send water into the desert toward culverts that were installed under the Schurz Highway south of Dodge Lane.

One of the biggest feats of flood mitigation was the construction of the 17-mile "Big Dig" that transported water from Carson Lake to the Stillwater Wildlife Refuge northeast of Fallon.

Cage said 2023 has been different, especially with lessons learned from 2017. Both the city and county have declared regency declarations, and Cage said Gov. Joe Lombardo has declared emergencies for most of Nevada's counties.

"We have 1.1 million acre-feet of water in the Sierra," Cage noted.

What concerns officials is the colder-than-normal temperatures which will shorten the timeframe for snowmelt. Cage said the snow in the Sierra Nevada is staying in place, and depending on temperatures for the rest of the month and in April, either the snowmelt will be gradual or flow quicker than normal.

Cage said the key takeaways are to prepare for possible flooding now; for the Truckee Carson Irrigation District and the Bureau of Reclamation to monitor the river and the canal system water



Jack Worsley, area manager for the Bureau of Reclamation in Carson City, remembers the flooding from 2017. He reiterated the importance of watching the weather and flood predictions for the spring and said an aerial assessment of the snowpack in California also indicates 1.1 million acre-feet of snow above 5,000 feet in elevation.

In comparing 2017 and 2023, he said the lakes and reservoirs were bone dry in 2017 after four years of drought, whereas the current water levels in area reservoirs and lakes are more noticeable. When the warmer weather arrives, Worley said there will be concerns.

“Our goal is to control the flow of water below the (Lahontan) dam,” he said.

Churchill County Commission Chairman Bus Scharmann said the county is looking at building another weir on the V-line canal near the one that was installed in 2017. With the amount of water predicted to fill the Carson River and Lahontan Reservoir, he said doubling the flow of water from the canal to the desert will help mitigate flooding along the river and canals.

Likewise, Fallon Mayor Ken Tedford said this is a different time than six years ago because of the water content.

“Not too much is coming because of the weather,” he said.

Tedford said his concern, which was repeated by the other speakers, is controlling the flow of water along the Carson River.

“TCID, the county, Bureau of Reclamation are doing a great job,” Tedford said. “Everything that needs to be done is being done.”

Other areas of concerns from the meeting included:

- Controlling the water flow in the Carson River downstream from Lahontan Dam. Uncontrolled flows and/or flooding will present more risks, especially for the city.
- TCID is primed to do water deliveries, but because of the excessive water and ground saturation, the agency is unable to do so.
- TCID is spreading the water to both righted and non-righted land users.
- The county construction of a new weir on the V-Line will be bigger than the current weir.
- Completion of an additional weir is based on the availability of material and construction workers.
- Every effort will be made to keep water from flooding residences downriver from the dam.
- Residents who are concerned with flooding are advised to walk around their property, construct berms if possible, and place sandbags at vulnerable points.

- Sandbags may be picked up from 485 Miners Road at the following times: Monday through Friday: 10 a.m. to noon and again from 12:30 p.m. to 2:30 p.m.; Saturdays and Sundays: 9 a.m. to 2 p.m. For seniors and residents with mobility issues who live on the Carson River, sandbag delivery is available by calling the call center at 775-867-5923.

- The water call center telephone number is 775-867-5923, and it will be staffed weekdays from 8 a.m. to 5 p.m.
- Important websites to remember:
 - City of Fallon: www.fallonnevada.gov
 - Churchill County: www.churchillcountynv.gov
 - Truckee River Operating Agreement (water reports): www.troa.net



NEWS & EVENTS

California-Nevada Drought & Climate Outlook Webinar: March 27, 2023

March 27, 2023 11:00 am - 12:00 pm PDT

According to the March 28 U.S. Drought Monitor, 36.7% of California-Nevada is in drought, with no Extreme (D3) or Exceptional (D4) Drought left in the region. Another series of Atmospheric Rivers are drenching the region, bringing a new round of flooding concerns. Does this mean the drought is over? This webinar provided an overview of current conditions and outlooks, as well as California and Nevada rangeland updates.

The California-Nevada Drought Early Warning System March 2023 Drought & Climate Outlook Webinar is part of a series of regular drought and climate outlook webinars designed to provide stakeholders and other interested parties in the region with timely information on current drought status and impacts, as well as a preview of current and developing climatic events (i.e., El Niño and La Niña).

0:00

Welcome to the California-Nevada Drought & Climate Outlook Webinar

Speaker: Amanda Sheffield | NOAA's National Integrated Drought Information System (NIDIS), CU Boulder/Cooperative Institute for Research in Environmental Sciences (CIRES)

- Welcome to the March 2023 California-Nevada Drought & Climate Outlook webinar.
- State and regional level drought information can be found on Drought.gov: [California](#), [Nevada](#), [California-Nevada Drought Early Warning System](#).

4:10

Drought and Climate Update

Speaker: Benjamin Hatchett | Desert Research Institute

- The region has had a cooler-than-normal and wetter-than-normal cool season.
 - Exceptional snowpack was built and maintained through water/early spring.
 - Soil moisture is greatly improved/improving.
- There has been vast drought amelioration/termination across California and Nevada.

- Reservoir conditions are favorable overall.
- Keep eyes out for ‘sunny heat waves’ in the spring (i.e., snowmelt flooding).
- Drought always looms in a hotter, thirstier world.

22:10

● Drought and Climate Outlook

Speaker: Nathan Patrick | NOAA/National Weather Service California Nevada River Forecast Center

- La Niña conditions have ended, and neutral conditions are favored through spring and early summer. Here is this year’s [forecast verification discussion](#).
- Seasonal April–June outlooks from the National Weather Service's Climate Prediction Center:
 - Odds favor normal to below-normal temperatures, which is important for managing the melting snowpack.
 - Odds favor normal to below-normal precipitation
 - Drought reduction is expected to continue, except near the Oregon border and California deserts.
- See the [California Nevada River Forecast Center](#) for forecasts (e.g., water resources index from ensemble forecasts, water year full nature flow volume, forecast date of peak flow/inflow).
- Other impacts: Flooding is already occurring, such as in Tulare County. Streamflow will be cold into the warmer months, impacting recreation. There could be a potential delay to fire season, but a wetter year’s growth provides potential for fuels.

35:52

● California Rangeland Update

Speaker: Leslie M. Roche | Associate Professor of Cooperative Extension in Rangeland Management, University of California Davis

- California rangelands produce ~70% of the state's livestock forage base, a \$3 billion annual cattle and sheep industry, and ~80% are privately owned.
- Reports from California rangeland managers:
 - **North/Northeast:** Early in season, greater than normal amounts of snow with saturated soil profiles in valleys, reservoirs filling, Eagle Lake levels still low (long-term trend exacerbated by drought).
 - **Sacramento Valley:** Low forage productivity, cold temperatures may be limiting growth, soil moisture at field capacity, groundwater levels still recovering.
 - **Sierra Foothills:** Soil moisture at field capacity, seasonal creeks flowing, stock ponds full, cold temperatures limiting grass growth.
 - **San Joaquin Valley:** Variable forage production across monitoring sites (below, similar, greater than prior years), cold temperatures may be limiting grass growth in some areas, seasonal creeks flowing.

- **Central Coast:** Soil moisture at field capacity, cold temperatures limiting grass growth.

47:10 ● **Nevada Rangeland Update**

Speaker: Patti Novak-Echenique | Rangeland Management Specialist, Bureau of Land Management

- Nevada is the driest state in the nation with four well-defined seasons and terrain that responds quickly to changes in solar heating.
- Southern Nevada showing some green-up on the National Phenology Network Spring Leaf Index. Much of the state is still in dormancy compared to drought stressed last year.
- Below-normal spring temperatures have delayed spring green-up.
- Growth yield equations predict an average to above-average growing season for most of the state.

59:28 ● **Q&A and Closing**

Speaker: Amanda Sheffield | NOAA NIDIS, CU Boulder/CIRES

- Register now for the [next webinar](#) in this series on Monday, May 22, 2023.

Key Partners



National Oceanic and Atmospheric Administration (NOAA)



California-Nevada Adaptation Program (A NOAA CAP/RISA Team)



Western Regional Climate Center




National Weather Service (NWS)



University of California



Bureau of Land Management

 An official website of the United States government
[Here's how you know](#)



MENU

Search EPA.gov

News Releases: Headquarters

<https://epa.gov/newsreleases/search/press_office/headquarters-226129> | **Water (OW)**

<https://epa.gov/newsreleases/search/press_office/water-ow-226159>

CONTACT US <<https://epa.gov/newsreleases/forms/contact-us>>

EPA and HHS Encourage States to Utilize Federal Resources for Lead Detection and Mitigation in Early Care and Education Settings

March 28, 2023

Contact Information

EPA Press Office (press@epa.gov)

WASHINGTON — The U.S. Environmental Protection Agency (EPA) and U.S. Department of Health and Human Services (HHS) issued a joint letter to governors to encourage state and local governments to use federal funding to take actions to reduce and remove lead in drinking water in early care and education settings, like elementary schools and daycare facilities.

“The science is clear: there is no safe level of lead of exposure to lead — especially for our children,” **said EPA Administrator Michael S. Regan.** “The Biden-Harris Administration is taking a whole-of-government approach towards reducing lead

exposure, especially in the environments our youth learn and grow. We are encouraging our state and local partners to join us in this critical effort and leverage the unprecedented levels of federal funding from the Bipartisan Infrastructure Law to reduce childhood lead exposure.”

“Children are our future,” **said HHS Secretary Xavier Becerra**. “The Biden-Harris Administration is committed to protecting children and the communities they live in by taking action to deliver clean drinking water, replace lead pipes, and remove lead paint. This collaboration between HHS and EPA will continue to advance lead remediation in elementary schools and child care facilities, protecting the health and well-being of future generations.”

EPA and HHS are delivering on the White House's Lead Pipe and Paint Action Plan by encouraging federal, state, and local governments to use every tool to deliver clean drinking water, replace lead pipes, and remediate lead paint. Funding for this collaborative initiative can come from both the American Rescue Plan and the Bipartisan Infrastructure Law, among other federal resources. It is especially critical to make improvements to places where children spend significant time such as child care centers, family child care homes, preschools, and Head Start programs. Together, these historic federal investments have the potential to be transformative and to act as a catalyst to achieve lead-free water for all, especially for children who are most susceptible to the health impacts from lead exposure.

President Biden’s Bipartisan Infrastructure Law is dedicating an unprecedented \$15 billion to removing lead from drinking water including in early child care settings. In the coming days, EPA will be announcing this year’s drinking water funding supporting states, Tribes, and territories in upgrading critical infrastructure and improving access to safe drinking water across the nation. This funding builds on President Biden’s Investing in America agenda to deliver clean water and protect public health for all people, especially disadvantaged communities.

States can also take administrative measures to support the health and safety of children in early care and education settings by establishing or strengthening licensing and monitoring requirements or improving blood lead screening programs. In addition, states can provide technical assistance and resources to meet lead testing and

remediation requirements, including use of the EPA 3Ts (Training, Testing, and Taking Action) voluntary program to help schools and child care facilities make progress on reducing lead in drinking water.

Learn more by visiting EPA WIIN Grant: Voluntary School and Child Care Lead Testing and Reduction Grant Program <<https://epa.gov/dwcapacity/wiin-grant-voluntary-school-and-child-care-lead-testing-and-reduction-grant-program>> and HHS Strategy Resources to Support Access to Safe and Healthy Early Care and Education Facilities [🔗](#)

<<https://www.acf.hhs.gov/ecd/initiatives/strategy-resources-support-access-safe-and-healthy-early-care-and-education-facilities>>.

Background

The EPA and HHS are working together to reduce children's exposure to lead as signatories on a Memorandum of Understanding on Reducing Lead Levels in Drinking Water in Schools and Child Care Facilities, and together co-chair the President's Task Force on Environmental Health Risks and Safety Risks to Children, comprised of 17 federal agencies and White House offices. Together, these initiatives highlight the federal government's dedication to taking action to reduce their risk of disease and impairment by lowering children's exposure to lead using federal and state resources and initiatives.

Children are especially vulnerable to lead effects because their bodies are still developing. Infants and young children are at the highest risk for life-long health problems from lead exposure. Lead poisoning can have both physical and psychological repercussions. Exposure to even low amounts of lead in children can cause anemia, behavioral and learning issues, and other problems. Therefore, states must coordinate their efforts to address lead in early care and education settings, where most American children spend a significant amount of time.

Contact Us <<https://epa.gov/newsreleases/forms/contact-us>> to ask a question, provide feedback, or report a problem.

LAST UPDATED ON MARCH 28, 2023



City of Sparks one step closer to annexing thousands of acres



Noah Bond looks at efforts to expand the city of Sparks by 40,000 acres.

By [Noah Bond](#)

Published: Mar. 30, 2023 at 3:04 PM PDT



SPARKS, Nev. (KOLO) - U.S. Senator Jacky Rosen (D-NV) and U.S. Rep. Mark Amodei (R-NV) are set to release their own bills in the coming days or weeks to [annex roughly 40,000 acres](#) owned by the Federal Government into the City of Sparks.

The land in question is in an area east of Sparks, north of I-80, and ends in the area north of USA Parkway.

City of Sparks Mayor Ed Lawson says he supports this proposal because the remaining land in Sparks left to develop is forecast to run out around the year 2027.

Once construction stops, property tax revenues to pay for services like roads, police, and fire crews will begin to decline.

This would likely result in serious financial problems for the City of Sparks.

"The State of Nevada is the last State in the Union that has this regressive property tax, where the day the property hits the tax rolls it immediately starts to depreciate and will depreciate over the next 50 years," said [Stonegate Master Plan Community Developer](#), Don Pattalock.

Nevada's property tax rate starts at 35 percent of a property's assessed value and it drops 1.5 percent each year for 50 years until the rate bottoms out at between 10 and 12 percent. The rate never resets even if the home is sold.

This leaves elected officials with dwindling funds to pay for growing expenses.

"If we don't grow we don't add police or fire or parks and we don't maintain streets. We will eventually go backwards in all the services we provide," Mayor Lawson said.

The pro-growth property tax plan is here to stay because it's written into Nevada's State Constitution.

It would take two votes of the legislature and a vote of the people to make a change.

All of these realities are pushing Sparks City leaders to look for some way to expand.



One option is to construct high density homes in tall buildings.

“And when we go up, we get more expensive. So, we become San Francisco of the Sierra Nevada Mountains and I don’t want to be San Francisco,” said Mayor Lawson.

The second option is the Landsbill. It would annex about 40,000 acres into the City of Sparks, but this action requires the approval of the U.S. Senate and House of Representatives along with President Biden’s signature.

The bills drafted by Sen. Rosen’s team and Rep. Amodei’s team are the first drafts for northern Nevadans to look at and discuss for revision and changes before a final draft is presented to lawmakers in Washington D.C.

Rep. Amodei says he’s happy to introduce this bill on the condition the voices of leaders in Reno, Sparks, and Washoe County are largely unified.

“It’s a challenge and it takes a lot of work. Until the Fallon expansion for the Navy out there, we hadn’t passed a Landsbill since Harry Reid was in the Senate. They’re hard things to do,” Rep. Amodei said.

Official statements about the Landsbill from the City of Sparks, Washoe County, City of Reno, and Sen. Jacky Rosen are below.

City of Sparks Official Statement:

“Obviously we’re in favor of it. Sparks is running out of land, and we still need to grow. That means we go up and when we go up, we get more expensive. We become the San Francisco of the Sierra Nevada Mountains and I don’t want to be San Francisco. I want to be Sparks and that’s what the Landsbill allows us to do. We’d like to take back our river and move the industrial area east, closest to the employment center. We’ve heard about the recent Tesla announcements and some other businesses that are moving out there. We can expect these businesses to employ upwards of 50,000 people. While some of those families will live in Storey County, as many as eighty percent of them will live here in Reno and Sparks because we have the amenities. We’ve been saying this for the past six years. We want to grow smarter and stronger and that’s what the Landsbill will help us do.

SOURCE: Sparks Mayor Ed Lawson and Sparks Community Relations Manager Julie Duewel

Washoe County Official Statement:

“Senator Rosen’s Office will remain the lead on the Washoe County Public Lands Management Act and has continued to work with Congress and all of the involved stakeholders. It is anticipated that information regarding language and maps will be available for public input mid March at www.landsbill.org.”

SOURCE: Washoe County Media and Communications Manager, Bethany Drysdale

City of Reno Official Statement:

“The City of Reno remains prepared to discuss and review a federal lands bill proposal when it is drafted. The City’s efforts on this initiative will focus on providing for economic opportunities consistent with regional planning principles that promote sustainable growth and efficient growth patterns in our region as well as furthering conservation by designating appropriate wilderness areas and providing funding for habitat restoration and other conservation activities. The City will remain neutral on the legislation until specific details are provided, and support for any effort will be determined when sufficient details are available for review.

SOURCE: City of Reno Communications Program Manager, Cassie Harris

U.S. Sen. Jacky Rosen Official Statement:

“My office is working closely with stakeholders to put together a Landsbill that can meet the needs of Washoe County and the growing Reno-Sparks community while also balancing conservation and existing public land uses, and delivering for our Tribal communities. I look forward to sharing a discussion draft of this legislation soon.”

COLUMBIA DAILY TRIBUNE

NEWS

City likely to contract with consultant for lead/copper testing in late April, early May



Charles Dunlap

Columbia Daily Tribune

Published 5:40 a.m. CT March 31, 2023

Work continues by Columbia Water and Light staff to follow new lead/copper water quality parameters after a testing failure last year.

There is more than just the required testing of 100 different sites, split between the first half and second half of year, to comply with updated lead/copper testing rules, wrote Matt Nestor, department spokesperson in an email this week to the Tribune.

The city must also complete a water line inventory by Oct. 16, 2024, develop a water sampling/testing program for schools, childcare facilities and more, and develop a public education and outreach program.

Part of the department's budget approved in September included \$250,000 to hire a consultant to assist staff to complete a lead service line inventory, Nestor wrote. A service line is what connects a residential structure to the water main. The city already has replaced all of its lead water mains from a project dating back 40 years.

"It is common for the city to hire consultants to assist with large or complex projects," Nestor wrote, adding the amount of assistance a consulting agency provides to city staff depends on the project and its scope, also noting the department is facing a staffing deficit of 80 vacancies.

"Utilities anticipates bringing a proposal for an engineering contract before the city council in late April or early May," he wrote.

As of March 6, the city identified 39 of the 100 required test sites with more than 1,600 letters sent to possible residences. The lead/copper rule relates to leaching of those two metals into water due to corrosion. Metal corrosion is more likely under acidic conditions. The city maintains a water pH between 8.1 and 9 and an alkalinity of more than 105 mg/L as corrosion prevention, previous Tribune reporting stated.

"The lead and copper rule allows for a range or just a minimum value for alkalinity. High alkalinity doesn't lend itself to making the water more corrosive, so the department removed the maximum alkalinity value in December of 2022," wrote Brandon Bach, Missouri Department of Natural Resources permits and engineering unit chief for the public drinking water branch, earlier in March about the city's updated water quality parameters.

Lead/copper water quality testing from 2019 did not raise concerns from DNR.

Because of how complicated the lead/copper rule is, returning the city to standardized testing was overlooked at the end of 2019 and going into 2020. Instead of testing 50 residential taps every three years, standards require 100 tests annually, split between the first and second halves of the year. The city was placed back on standardized testing at the very end of 2021, but failed to conduct testing last year as required.

Department structure and a lack of staff following sample collection procedures led to the testing failure.

To address these, David Hunt was named as acting assistant utilities director for the water division. He is to receive weekly water testing reports from the lab supervisor, whose role also has been updated to be a compliance officer for testing, as part of the department restructuring. Other restructuring happened at the time of budget approval in September.

The utilities department, previous to the 2023 fiscal year, in the water and electric divisions had three sections each with their own manager. This created the potential for poor communication and lack of understanding of responsibilities, Utilities Director Dave Sorrell wrote in a memo he sent to the city council earlier in March. The water and electric divisions now have a single manager for each division.

"These organizational changes will help minimize the potential for this type of failure in the future and should improve overall performance and communications," Sorrell wrote.

DNR expects the city will operate successfully under the water quality parameters established in December.

"The department's past and present monitoring data for lead and copper does not indicate a cause for concern about corrosive conditions in the drinking water in Columbia," Bach wrote.

The parameters issued by DNR to Columbia were not because of any treatment change or source for Columbia's water system, he added.

"The quality of the water provided by the City has not changed and previous monitoring data for the city is still expected to be representative of the water served to the public," he wrote.

Previous water monitoring data is available through the DNR's Drinking Water Watch website and Bach recommends if residents still have further concerns to contact the city.

NOTE: This article includes portions that were previously published.

Charles Dunlap covers local government, community stories and other general subjects for the Tribune. You can reach him at cdunlap@columbiatribune.com or @CD_CDT on Twitter. Subscribe to support vital local journalism.

News Weather Sports KOLO Cares Livestream

To conserve, Nevada may try to buy back groundwater rights

A Nevada bill — still awaiting a Senate committee vote — could be amended further



Marty Plaskett, a hay farmer in Diamond Valley, Nev., stands near one of his irrigation pivots that's watering his alfalfa field on Sept. 2, 2022. Plaskett may soon consider selling off parts of his water rights back to the state of Nevada. Plaskett, 57, has lived on a farm in Diamond Valley that his family bought for almost his whole life.

((Kaleb Roedel/Mountain West News Bureau via AP))

By Gabe Stern

Published: Mar. 31, 2023 at 10:00 AM PDT



CARSON CITY, Nev. (AP) - Marty Plaskett upgraded his farming equipment and spent \$60,000 on new sprinklers to conserve water, even before the rural Nevada valley where he farms alfalfa began more strictly managing groundwater.

Now, Plaskett is weighing another adjustment: selling off part of his legal right to use water that lies under his land to the state.

Even after a wet winter, Nevada and much of the West are still dealing with the effects of a prolonged drought that depleted groundwater supplies. Lawmakers in Nevada are considering a bill to allow the state to buy groundwater rights in diminished basins so nobody could use them again.

In the area where Plaskett farms, the state severely overestimated decades ago just how much water was available from wells sunk deep into fractured rock and gravel.

The Legislature hasn't determined how much farmers would be paid to give up some rights to groundwater.

"It would mainly come down to, number one, the price," said Plaskett, 57.

States throughout the West are grappling with similar issues over how to conserve water deep underground in a variety of political landscapes where experts are skeptical water basins can ever return to sustainable levels. Conservation alone will not be enough, experts say.

California implemented a system in 2014 that requires [regional agencies to manage groundwater sustainability](#) plans in places where there was little oversight. The state's lawmakers last year proposed spending \$1.5 billion to buy senior water rights, but the idea didn't have enough support.

Arizona passed sweeping groundwater management legislation in 1980, though experts said the state isn't on track to ensure what is pumped out is recharged by 2025.

"It's an indication of this big, transitional time that Western states are in," said Sarah Porter, executive director of the Kyl Center for Water Policy at Arizona State University. "We're taking a different view of groundwater these days."

Much of the spotlight over water scarcity in Nevada has been on the [Las Vegas metropolitan area](#), which relies almost exclusively on the [Colorado River](#). But in large swaths of rural Nevada, more groundwater exists on paper than is actually available.

Several decades ago, Nevada's semi-arid landscape was promoted as a place where groundwater was plentiful. The state didn't have a good way to determine just how much water was under the land surface at the time but doled out rights to use it.

Those parched landscapes have gotten a temporary reprieve by way of a historically wet winter. But the precipitation won't be enough to pull rural areas out of a drought or refill aquifers.

Other groundwater buyback programs exist across the West. But — unlike the one proposed in Nevada — many are limited to specific regions. The U.S. Department of Agriculture also works with various states to purchase water rights in areas of intense drought. Nevada looked to basins in southeast Oregon and Colorado as models for the proposed program.

The Nevada bill — still awaiting a Senate committee vote — could be amended further as its sponsor, Republican state Sen. Pete Goicoechea, addresses concerns over implementation and funding, including the \$5 million price tag that some say isn't enough. Proponents are looking for additional funding from the federal government or outside parties that could help foot the bill.

And some are grappling with a lingering question of whether the state should pay for irrigators to give up their rights to water that could eventually be curtailed anyway as drought deepens.

At a recent bill hearing, Jake Tibbitts, natural resources manager for rural Eureka County in central Nevada, said the state is responsible for over-allocating water rights in areas that have then seen tight-knit farming communities pop up.

"Frankly, the state's culpable on that and needs to provide some soft landing ability for some of these folks," he said.

In about half the water basins in Nevada, there's more water on paper than actual water. And a growing number of basins aren't being replenished at the rate they're being pumped, according to the Nevada Division of Water Resources.

Nowhere is this more prevalent than in [Diamond Valley](#), about 300 mile (482 kilometers) north of Las Vegas where Plaskett lives on his 1,600-acre (647-hectare) farm. In 2015, the state designated it a critical management area, the strictest regulation for drought management.

The state Supreme Court [set new precedent](#) last year when it ruled that management plans for these types of critical areas, which are regulated by Nevada's top water official, can deviate from a longstanding hierarchy of water rights determined by seniority.

Goicoechea, a third-generation rancher, said he expects those designations to increase in the coming years. Another bill in the state Legislature would require a review of any groundwater management plan every 10 years.

If both bills pass, lower-priority water users in Diamond Valley could see water cuts sooner than under the current 35-year plan. But Goicoechea said that could provide an incentive for them to sell rights under the proposed buyback program.

"I think before they get to year 10, those people will start looking at it and saying, 'Hey, there's a way we can balance this bacon,'" Goicoechea said.

Micheline Fairbank, deputy administrator of the Nevada Division of Water Resources, said the agency isn't planning to create more critical management areas, even in basins that could qualify. Rather, the agency encourages more localized plans before it would consider the "most extreme regulatory tool," she said.


Plaskett's family bought the property in Diamond Valley in the 1960s, before the area had electricity and at a time the state thought there would be four times the amount of water available than what exists today.

Plaskett, a recently elected Eureka County commissioner who has lower-priority water rights, isn't sure if he'll sell any to the state. He wonders what else he could sustain on his land or if he could grow the same amount of alfalfa and grass with less water.

"There's so many different things to consider," he said. "But it's really hard to talk about until the price structure starts to develop and we get further into the groundwater management plan."

Copyright 2023 The Associated Press. All rights reserved.

Voices of today’s conservationists must be heard

 Mo Denis March 31st, 2023 at 2:00 AM Opinion

SHARE    



The new Avi Kwa Ame National Monument protects about 450,000 acres of land in Southern Nevada. (Je Scheid/The Nevada Independent)

Like many Nevadans and as a former state senator, I believe that the designation of Avi Kwa Ame as a national monument is an excellent addition to the protected areas in my home state and a beautiful example of conservation in Nevada. The Fort Mojave and other Native American tribes from the area have done a remarkable job advocating and influencing this vital movement for the conservation of this land.

The Monumental Shift coalition, a platform for people including Black, Indigenous, Hispanic and other marginalized populations to share and contribute to conservation in an authentic and significant way, advocated for the designation of Avi Kwa Ame, or Spirit Mountain, in Nevada and Castner Range in Texas as national monuments.

I am pleased that President Joe Biden listened to the request for the urgent protection of Avi Kwa Ame and Castner Range and used his authority granted by the Antiquities Act to designate them national monuments, both supported by Indigenous peoples, Hispanic communities, local lawmakers, sportsmen and women, among many others.

The Antiquities Act has great value to our country and our communities, but only if it is used equitably and with the right decision-makers at the table.

When it comes to federal public lands, conservation means many things to many people. In the West, time-tested methods of conservation have been practiced by Indigenous and Hispanic communities for centuries in a sustainable way without taking more than is needed.

We hunted, fished and adapted equitable sharing of water resources, for example, the traditional and sustainable water irrigation and management system of Acequias, without driving vital species to the

Water consumption in West captures attention of lawmakers



Water consumption in West captures attention of lawmakers

By [Colton Lochhead](#) Las Vegas Review-Journal



March 30, 2023 - 10:10 am

With [drought taxing water supplies](#) across the West, federal lawmakers introduced a bipartisan bill Thursday to better understand how much water we have, by figuring out just how much we lose.

The legislation would create a new program under the Department of Interior to use satellite imagery to estimate how much water is lost to evapotranspiration from crops, which makes up one of the largest chunks of water consumption in arid environments like the American West. Evapotranspiration is the water from the ground and surfaces of plants that is lost to the atmosphere.

Sen. Catherine Cortez Masto, D-Nev., and Rep. Susie Lee, D-Nev., reintroduced the Open Access Evapotranspiration Data Act on their respective congressional floors Thursday alongside Sen. John Hickenlooper, D-Colo., and Reps. Chris Stewart, R-Utah, Jared Human, D-Calif., and Burgess Owens, R-Utah. Similar legislation was introduced in 2021 and passed by the House before it died in the Senate.

“Nevada and other states along the Colorado River Basin are continuing to face a water crisis, and we need every tool possible to protect our water resources,” Cortez Masto said in a statement. “My legislation will help us measure and better understand our water resources and will make essential water data more accessible.”

Lee said that concept would expand on the OpenET program — a public-private partnership supported by NASA, the Desert Research Institute and the Environmental Defense Fund — nationwide in order to provide water managers and farmers with accurate estimates for how much water is lost from irrigating crops.

Better access to that data would mean better water management and greater water sustainability for Nevada and the rest of the drought-stricken Colorado River Basin, she added.

“I’ve said it over and over — you can’t manage what you can’t measure. The American West is facing the worst drought in 12 centuries. It’s going to require shared information and coordination across all fronts to solve this

crisis,” Lee said in a statement. “This isn’t a partisan political issue. Democrats, Republicans, and Independents across the West are all facing this impending drought crisis, and that’s why we are standing together across the aisle here in Washington in support of this legislation.”

Historically, access to that kind of data has been limited and expensive. The current OpenET program uses publicly available data from satellites and weather stations to provide estimates for water used by different crops across 17 states.

Zane Marshall, director of water resources for the Southern Nevada Water Authority, said expanding that program nationwide will provide a much-needed tool for policymakers and water users alike.

“OpenET will allow water managers to assess how much water is being used via a cost-effective and easy-to-use web-based platform, filling a critical data gap in water management across the U.S.,” Marshall said in a statement.

Several western environmental groups, including The Nature Conservancy, the Water Foundation and Western States Water Council, are endorsing the bill, according to Lee’s office.

Kyle Roerink, executive director of the Great Basin Water Network, said that while expanding the program could be a major benefit for water managers, it doesn’t come without some concerns.

“This bill creates a hub of ET data that should help balance water budgets and provide a better understanding of consumptive uses. The data, we hope, will be applied to limit conflict in basins across the west,” Roerink said in an email. “But it must not be used as a means to extrapolate more beneficial uses from water-dependent plant life.”

Contact Colton Lochhead at clochhead@reviewjournal.com. Follow [@ColtonLochhead](https://twitter.com/ColtonLochhead) on Twitter.

Records set in latest snow survey following series of winter storms



Jeff Anderson weighs the snow to assess water content at Monday's snow survey inside Mt. Rose Ski Tahoe (Ben Deach (KOLO))

By [Ben Deach](#)

Published: Apr. 3, 2023 at 5:17 PM PDT

RENO, Nev. (KOLO) - If you'd never been to the Mt. Rose summit trailhead parking lot until this week, you wouldn't know that there is a bathroom buried underneath a massive pile of snow.

After several years of relatively disappointing snowpacks, there was no doubt that when hydrologist Jeff Anderson went to measure and weight the snow near the summit on Monday he was expecting big things.

"It is over 15.5 feet," he mentioned. "With over 6 feet of water, so I would have to swim if I was standing here, and it was all melted right now. "

At the site near Mt. Rose summit the snowpack is 211% of median and at this point ranks 4th most all time. However Anderson says there is still time for a record to be set.

"At this SNOTEL site it's the 4th highest," he explained. "All of those years peaked in late April into early May so this site actually could break its record. "

Farther south is where records have been set.

"For the Carson and Walker basins this is the biggest winter that has ever been measured, " said Anderson.

The Carson Basin currently sits at 290% of median, with the Walker Basin at 306% percent following a relentless onslaught of winter storms. Federal water master Chad Blanchard was on hand for the snow survey and says there will be decisions to make regarding how much water to release into the Truckee River.

"There is so much more that can come into Tahoe than we can release," he stated. "We have to get ahead of it. "

Copyright 2023 KOLO. All rights reserved.

[nature](#) > [news explainer](#) > [article](#)

NEWS EXPLAINER | 31 March 2023 | Correction [03 April 2023](#)

What the science says about California's record-setting snow

A relentless series of 'rivers in the sky' is creating extreme conditions across the state, but a role for climate change is unclear.

[Gemma Conroy](#)



A storm dumps snow on California's Mammoth Lakes on 28 March. Credit: Mario Tama/Getty

Not again! Earlier this week, California was battered by heavy rain, strong winds and thick snow – the latest in a seemingly unending procession of strong storms. Wild weather has afflicted the previously drought-stricken state for three months, resulting in devastating floods, paralyzing blizzards and dozens of deaths. Data released on Thursday show that the snowpack is the biggest on record. *Nature* spoke to atmospheric and climate scientists about what’s driving the surge in wet weather and what the state could look like in a warmer future.



A rare snowstorm in southern California frosted the mountains on the edge of Los Angeles on 1 March. Credit: Ringo Chiu./ZUMA Press Inc/Alamy

Why are so many storms hitting California?

California’s recent parade of storms is driven by atmospheric rivers – long, narrow plumes of moist air that travel from the tropics to higher latitudes. When these ‘rivers in the sky’ sweep over mountainous regions, they condense into clouds that produce heavy rain and snow, says Allison Michaelis, an atmospheric scientist at Northern Illinois University in DeKalb.

An atmospheric river can ferry enormous amounts of water vapour; some discharge more than twice as much water as the Amazon River¹. In the western United States, atmospheric rivers contribute up to half of the region's annual rain and snow. Since last November, 31 atmospheric rivers have hit California, more than half of which ranged from moderate to extreme, according to data from the Scripps Institution of Oceanography in La Jolla, California.

Although back-to-back atmospheric rivers are not unheard of, they have a significant impact, says Michaelis. "What might have typically been a more beneficial event could turn potentially hazardous if it comes on the heels of another system."



Cars dot floodwaters from the Tule River on 21 March, after days of heavy rain in Corcoran, California. Credit: David Swanson/Reuters

How much snow is there?

In the Sierra Nevada mountain range in eastern California, the season is the snowiest since 1952, says Andrew Schwartz, an atmospheric scientist who leads the University of California, Berkeley's Central Sierra Snow Lab in Donner Pass. "It's just dumping snow," he says. A total of 18 metres of snow has fallen at the lab this season, nearly double the yearly average. And statewide, the snow's water content – the amount of water that would result if the snow were to melt – is roughly double the average, says Schwartz.

The conditions have brought welcome relief after the three driest years on record in California, allowing the rollback of 'exceptional' and 'extreme' drought designations for the first time since 2020, according to the US National Oceanic and Atmospheric Administration's US spring outlook. But capturing and storing water released as the thick snowpack begins to melt can be a race against time, says Tom Corringham, a research economist at Scripps. If the snow melts too quickly, the excess water will end up in the ocean instead of being stored and distributed to where it's needed most, he says. "That's not ideal for water management."



People remove snow from a residential complex in Mammoth Lakes, California, on 29 March. Credit: Mario Tama/Getty

Is climate change playing a part?

As the atmosphere warms, atmospheric rivers are likely to become less frequent and hold more moisture, and that will result in heavy downpours of rain and snow, says Schwartz. He notes that California is swinging between wet and dry periods that are more extreme than in the past. “While this variability has always existed, it’s becoming amplified due to climate change,” he says.

Kim Reid, a climate scientist at Monash University in Melbourne, Australia, says that more work needs to be done to understand how climate change will affect jet streams and other systems that influence the direction of atmospheric rivers. If atmospheric rivers shift by a few degrees latitude, they could become more common in some regions and rarer in others, she says.

doi: <https://doi.org/10.1038/d41586-023-00937-x>

UPDATES & CORRECTIONS

Correction 03 April 2023: An earlier version of this story incorrectly characterized the effect of climate change on atmospheric rivers.

References

1. Ralph, F. M. *et al.* *J. Hydrometeorol.* **18**, 2577–2596 (2017).

☰ [News](#) [Weather](#) [Sports](#) [KOLO Cares](#) [Livestream](#)

Winter Weather Advisory Is In Effect

Fallon again taking steps to keep flood waters at bay

By [Ed Pearce](#)

Published: Apr. 4, 2023 at 7:17 PM PDT

FALLON, Nev. (KOLO) -In the spring of 2017, years of drought was followed by a big snowpack, enough to overwhelm flood control infrastructure across western Nevada.

In the Fallon area, that meant the possibility of more water than Lahontan Dam and the canals of the Truckee Carson Irrigation District could hold. That put farms, homes and the city itself in jeopardy.

The proactive response that followed was remarkable in scale, but most of all in speed, much of it designed and built as they went along.

A weir was built along a major canal miles below the dam to take excess water and send it into the desert. But it was realized that water would eventually spread miles away and threaten Highway US 95, a critical north-south link.

So, huge new culverts were built to take the water under the roadway to the marshes of Carson Lake on the other side. It too would eventually fill, so the last project of this response was built.

They call it "The Big Dig", a 17 mile channel bringing the water east of town, under Highway US 50 and out to the Stillwater Marshes.

All in all, an amazing feat. From start to finish in about 90 days. And it worked.

Six years later it's all still there. It did its job back then and it's doing it today, but this time around it may not be enough.

The threat is even more serious this year. First, there's even more snow in the upper elevations than in 2017.

"In 2017 we filled Lahontan three times and emptied it three times," says Jack Worsley, the Area Manager for the Bureau of Reclamation. "Our forecast now is four to five times."



But the critical unknown is timing. By this time in 2017, the snowmelt was already underway. This year our continued cold temperatures have delayed things while more storms have added to the snowpack. That means more water in a shortened runoff.

"We've got more snow on the mountain and its not coming off as quickly," says Churchill County manager Jim Barbee. "So that gives us great concern that it's going to turn hot and come off all at once."

"So we're going to see an awful lot of water in a short amount of time," adds Worsley.

So, area officials are choosing again to be proactive. The county commissioners voted to spend \$5.5 million on additional flood mitigation. They're hoping for federal relief funds, but the work can't wait.

Water is already filling the marshes of Carson Lake, so a new six-foot berm is being built to increase capacity.

The Big Dig has been cleared of sediment and debris and is once again carrying excess water where it can do little harm. Work is also underway on the construction of three more weirs to direct even more water into this valley-wide diversion system.

"Again, it's just all-hands-on-deck to make sure that we are preparing for the worst possible outcome," says Incident Commander Caleb Cage.

Will it be enough this time? The weather will answer that question.

Copyright 2023 KOLO. All rights reserved.

NEWS

Gov. Lombardo names Clara Andriola to replace Vaughn Hartung on Washoe County Commission

Brett McGinness and Mark Robison Reno Gazette Journal

Published 12:39 p.m. PT April 5, 2023

Clara Andriola has been named to represent District 4 on Washoe County Commission, three weeks after former commission chair Vaughn Hartung announced his resignation.

Nevada Gov. Joe Lombardo named Andriola to the seat on Wednesday. Andriola also has served on the Sparks Planning Commission and Sparks Citizens' Advisory Board. She has been executive director of the Reno Rodeo Foundation since 2015.

“I’m honored to represent District 4 on the Washoe County Commission,” said Washoe County Commissioner Clara Andriola. “I’ve been honored to serve our community in my previous non-profit positions and appointments, so it’s a tremendous privilege to now continue my service on the Washoe County Commission. I’m grateful to Governor Lombardo for his confidence in me, and I’m eager to get to work for Washoe County.”

District 4 includes Sparks, Spanish Springs, Hidden Valley and Wadsworth.

Hartung was offered a position at the state of Nevada in the Department of Business of Industry, according to a county news release. In order to accept that appointment, he was required to resign from the Washoe County Commission.

Hartung had served on the county commission since 2012. His term was his third and would have been his final on the commission due to term limits.

[View this email in your browser](#)



The East Fork of the Carson River near Genoa, Nev. on April 4, 2023. (David Calvert/The Nevada Independent)

Indy Environment: Record snowpack eases drought, but raises a new risk: flooding

Good morning, and welcome to the Indy Environment newsletter.

A quick programming note: We are hiring a new environment and energy reporter at The Indy! [Here is the job ad.](#) Please spread this opportunity far and wide — and share with anyone who might be interested. As for me, I am going on leave this summer to continue researching and reporting a book project about water scarcity and use in the Great Basin. When I come back, I will be taking on a new role at The Indy focused on investigative reporting/editing. I still plan to report on environmental issues, particularly water, but I will be taking a step back from daily coverage.

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.

After years of back-to-back drought, a historic — and in many cases, record breaking — volume of water has accumulated as snow in mountains across western Nevada and the Great Basin.

The snowpack, among the largest in the past 40 years, is providing the arid West and much of Nevada with a respite from prolonged drought. Reservoirs are refilling, boosting water supplies, and the moisture has left dry soils more saturated. At the end of 2022, the U.S. Drought Monitor reported nearly the entire state facing severe to exceptional drought. As of March, that measure had dropped to 5 percent, capping off a three-month period filled with continual winter weather.

The snowpack in Marlette Lake (above Lake Tahoe), Sonora Pass, which feeds into the Walker River, and Lamoille Canyon in the Ruby Mountains, hit all-time highs since snow volumes were first recorded about a century ago, according to the Natural Resources Conservation Service.

In many parts of the state, including the mountains that feed into the Carson and Walker rivers, Jeff Anderson, a hydrologist with the conservation service, said the snowpack surpassed the old records “by really large amounts — by like 20 to 30 percent more snow than we’ve seen before on April 1.”

“We have an incredibly strong snowpack, record setting in many locations,” he said.

But the strong snowpack, a relief for water managers, has emergency managers preparing for what could be a spring and summer of significant flooding as the snow melts and runs off into streams, rivers and diversions across the state. Already, flooding in rural communities through March contributed to an estimated \$20 million in damages, according to state and local officials.

Flooding in central Nevada has made many roads impassable, temporarily cutting off the Yomba Shoshone Tribe from food and supplies in early March. When a big storm hit the state last month, precipitation turned into flood water that hit Eureka, threatening homes and isolating cattle, as flooding further east in Lincoln County threatened the state-operated Echo Canyon Dam and communities that lie beneath it. Lyon County saw major flooding in Smith Valley and in Dayton.

“We live in an arid desert, so every drought ends with a flood; I’ve heard that my entire career,” said David Fogerson, who leads the Nevada Division of Emergency Management and coordinates flood response. “It’s a [natural cycle] that we have to figure out how we manage and live within. But it does seem like it is happening on a more frequent basis than what has happened in the past.”

Three years of consecutive drought, in addition to the overuse of a limited water supply, placed significant stress on water users, the environment and ecosystems. The sizable snowpack this year is expected to provide some breathing room, even as water users continue to grapple with overuse — more rights to water than there is water to go around — and increasing demand.

Across the West, many rivers are fed from snowpack, which acts as a natural reservoir, storing water at high elevations that is then released into creeks and streams as the snow melts in the spring. Along the Truckee River, which rises above Lake Tahoe and flows through Reno toward Pyramid Lake, officials expect key storage reservoirs to fill, creating a buffer for future dry years.

The high flows forecast to course through the Truckee River could improve conditions for the threatened Lahontan cutthroat trout and the endangered cui-ui, two fish species that

the U.S. Bureau of Reclamation.

For decades, the Pyramid Lake Paiute Tribe has worked to reintroduce and recover the species of fish, fighting in court to secure water rights, restore habitat and redirect water back to the lake after years of diversions toward the Carson watershed damaged Pyramid Lake's ecosystem.

The high flows this year, according to Donna Noel, the tribe's natural resources director, "will increase the elevation of the lake and also give enough flows to allow both the Lahontan cutthroat trout and cui-ui to spawn this year." She said it will also help the Pyramid Lake Paiute Tribe prepare for dry years by storing water in Stampede Reservoir, which can be released in the future. Freshwater inflows into Pyramid Lake are also critical for maintaining water quality.

She said high water is important for fish to access spawning infrastructure.

"It's a function of how they constructed the dam and the spawning channel," Noel said.

Anderson, with the Natural Resources Conservation Service, said questions remain about how the snow will melt in certain areas and what the long-term impact on water supply will look like — something that could be determined by whether next year is a dry year or another wet year.

This uncertainty could play out in the Humboldt River, where conditions were extremely dry until this year. The Humboldt is forecast to see potentially large inflows as a deep snowpack melts off into the creeks and streams that feed the river. But how will the dry conditions affect that flow?

"The Humboldt River had its worst runoff season ever last year," Anderson noted in an interview. "To go from record dry to the second snowiest year ever, how is that going to play out?"



The West Fork of the Carson River near Sorensens, Calif. on April 4, 2023. (David Calvert/The Nevada Independent)

systems have had to manage for scarcity, as is often the case. As temperatures rise, more water is expected to melt than officials might be able to control, adding flood control to the job of irrigation districts.

“We don't have, along these river systems, a flood control district,” Fogerson said.

The Carson River flows from the eastern Sierra through Carson City into Fallon and wetlands throughout the area. But the river is impounded at Lahontan Reservoir — and the volume of forecasted snow melt far exceeds the dam's storage capacity. Since early March, the Truckee Carson Irrigation District has been acting under emergency flood operations, evacuating water from the reservoir to make room for more water that is modeled to come flowing down the river.

The action is an about-face from last year, where allocations to water were cut to 85 percent. In any given year, Lahontan Reservoir can hold about 300,000 acre-feet of water (an acre foot of water is the volume of water that can fill 1 acre of land to a depth of 1 foot).

Last year, the irrigation district drained Lahontan Reservoir to about 4,000 acre-feet to fulfill water orders. This year, emergency managers and irrigation district officials expect to fill the reservoir three times.

Kelly Herwick, the Truckee Carson Irrigation District's water master, shared a rule of thumb: “When it's showing a wet water year, think even wetter. When it's showing a dry water year, think even drier.”

The high snowpack could boost irrigators within the district, offering them the potential to receive additional water as the district works to quickly move water out of the reservoir. It will also benefit the Lahontan Valley wetlands — an [important habitat for migratory birds](#) — that are managed by the Fallon Paiute Shoshone Tribe, the Nevada Department of Wildlife and the U.S. Fish and Wildlife Service.

But damaging floods in Churchill County remain a significant concern.

The major variable facing emergency managers and water officials on the Carson and Walker rivers is the timing of the melt. If the melt is somewhat steady, then there will be more tools and infrastructure to handle the excess water. If the melt happens all of the sudden — because of warm weather or a rain on snow event — then more water could come down the river, and quickly.

“If we're running everything full, there's not much wiggle room for a breach,” Herwick said.

Another variable, contributing to flood risk for communities across the state, is low-elevation snowpack. This snow, spread out across a wider area, can melt more rapidly. And already, the melt has been delayed by winter storms, leaving a bottleneck of snow awaiting a big melt.

Officials point to Spratt Creek, the lowest snow survey site in the Carson River Basin. Where in many years it would have melted by this time of year, Anderson said the area has only started to melt — with about 20 inches of snow water content remaining, far more than the normal peak of about 6 inches.

Emergency managers are preparing now, bringing resources into rural communities. In late March, Churchill County held a [town hall](#) to discuss upcoming flood preparations and [posted several takeaways](#). Officials are providing residents with sandbags, focusing on canal cleaning to avoid breaches and installing culverts under U.S. Highway 95. The county also approved construction of a new weir to help increase the capacity at which water can be moved from the reservoir.

prepare for floods, checking [online resources](#) and getting their households ready ahead of time.

During the flooding in March, the American Red Cross of Nevada set up shelters and provided resources to rural communities that were cut off by the storms. The Red Cross helped prepare food and supplies, including baby formula, to the Yomba Shoshone Tribe, and established evacuation shelters in Lincoln County, faced with increasing concern that Echo Dam could fail.

Mary Powell, executive director of the American Red Cross in Northern Nevada, said her organization is already preparing by organizing resources, collaborating with emergency officials and recruiting additional volunteers — an especially important need in rural counties.

"We're working to understand where each county is at, so we can fill gaps," she said.



Two miles north of Sloan Canyon National Conservation Area on May 9, 2018. (Jeff Scheid/The Nevada Independent)

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

The Clark County lands bill is back: “Growth around Las Vegas has long relied on one thing: public lands. The American West has long been defined by millions of acres of undeveloped land owned by the federal government and open to the public. Nowhere is that more true than Nevada, where public lands make up about 85 percent of the territory in the state.” An excellent piece by *InsideClimateNews*’ Wyatt Myskow [looks at the Clark County lands bill proposal](#).

My colleague Riley Snyder reports that **Department of Conservation and Natural Resources director James Settelmeyer, who previously served in the**

[Colton Lochhead writes about a bipartisan federal effort](#) to expand the OpenET program, an effort that uses satellite data to estimate how much water is consumed by evapotranspiration. The data generated by OpenET can be especially useful for measuring groundwater use and helping to implement conservation techniques. [More background on how the OpenET program works.](#)

A new study, [published in Science](#) and involving more than 80 co-authors, found that **horses were present in the American West by the early 1600s.** “Over recent decades, the story of people and horses has largely been told through the lens of colonial history,” study co-authors William Taylor and Yvette Running Horse Collin wrote for [The Conversation last week.](#) The new study, however, combined Indigenous knowledge, archaeology and genomics to revise these stories, recentering connections between Indigenous communities and horses.

“The efforts of the Shoshone-Paiute Tribes of the Duck Valley Indian Reservation to build a new school are underway in the Legislature, though they are receiving some pushback,” the *Las Vegas Review-Journal’s* Jessica Hill [reports](#), following up on a [story from January.](#)

Nature takes its toll: *The New York Times’* Soumya Karlamangla and Shawn Hubler [look at the return of Tulare Lake](#) in California’s Central Valley — with incredible images to go with it.

Gov. Joe Lombardo’s energy executive order breaks from Gov. Steve Sisolak’s approach to tackling greenhouse gas emissions and climate change, embracing natural gas as part of the state’s energy portfolio. [More on Lombardo’s order and revising the state’s climate strategy.](#)

- [My colleague Naoka Foreman profiled](#) the state’s first Black energy director.

How could an oil and gas lease sale in Nevada be a test case for the Biden administration’s approach to energy development? Claire Carlson, writing for *The Nevada Independent*, looks at the Inflation Reduction Act and seeks to answer that question in a [piece from the weekend.](#)

- The U.S. Bureau of Land Management announced a [proposed conservation rule.](#)

Environmentalists sued the federal government over a proposal to remove vegetation and pinyon-juniper in eastern Nevada, *Courthouse News Service’s* [Bob Leal reported.](#)

Nevada Gold Mines and a longtime Newmont union agreed to a new contract last week.

Incarcerated firefighters at the Jean Conservation Camp say that supervisors “mocked and ignored” them as their boots and socks melted. The *Las Vegas Review-Journal’s* Katelyn Newberg [reports on a lawsuit](#), filed by the ACLU, against state agencies overseeing the facility.

Thank you for being an *Indy* member!

[Subscribe](#)

[Past Issues](#)

[Translate](#) ▼

Make an additional donation



*Copyright © 2022 The Nevada Independent
All rights reserved*

Our mailing address is:

7455 Arroyo Crossing Parkway Suite 220
Las Vegas, NV 89113

Want to change how you receive these emails?
You can [update your preferences](#) or [unsubscribe from this list](#).
