

Veles Water Weekly Report

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November 7th 2024

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VelesWater



WATER FUTURES MARKET ANALYSIS

Welcome to ***WATERTALK***

by Joshua Bell

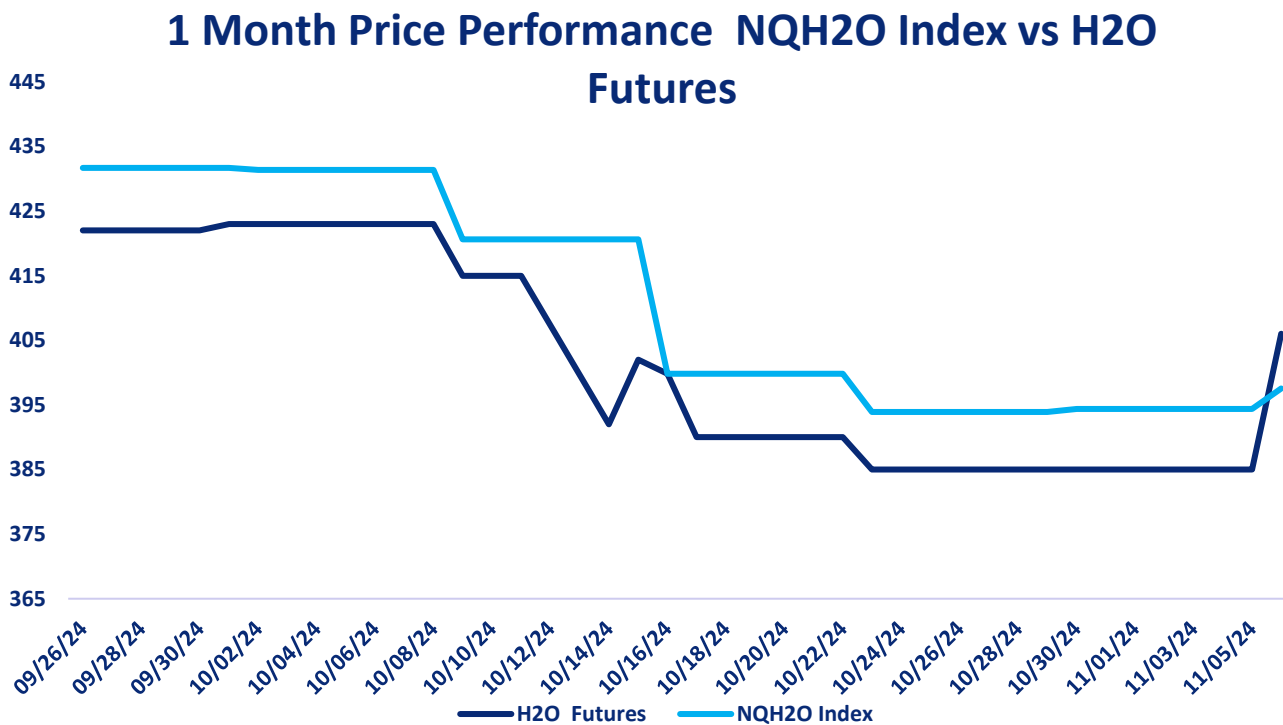
CLICK THE LINK BELOW

"A 2 minute technical analysis video of H2O futures"

<https://vimeo.com/1027201754?share=copy#t=0>



NQH2O INDEX PRICE vs H2O FUTURES PRICE



Price Chart Based upon Daily Close

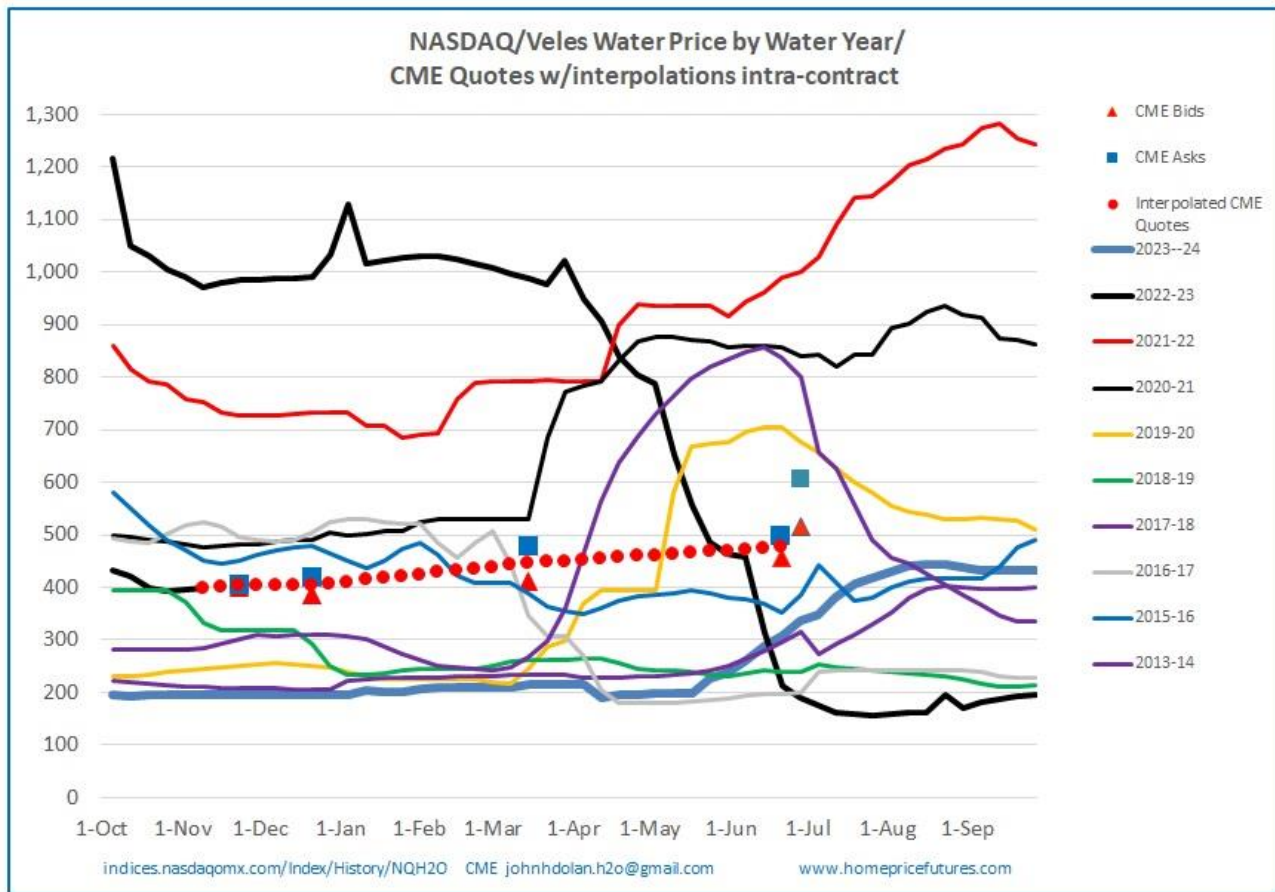
The new NQH2O index level of \$397.57 was published on November 6th up \$3.20 or 0.81% from the previous week. The November contract is considered the front month. The futures prices have closed at a discount of \$9.37 to a premium of \$8.43 versus the index over the past week.

Below are the bid offer prices on different expiries being quoted in the market.

Nov 24	400@406
Dec 24	385@420
Mar 25	410@480
June 25	445@495
June 26	515@605



NQH20 INDEX HISTORY



The graph above shows the CME water contracts for November 2024, Dec 2024, March 2025, June 2025 and June 2026 superimposed over historical NASDAQ Veles water indices. The interpolated curves for 2024-25 and 2025-26 (to include June 2026 contract) are shown in red dots.

(John H Dolan, CME Market Maker)



H2O FUTURES TECHNICAL REPORT



Price Action

- **Current Price:** 406
- The price has increased by 5.45% in this trading session, indicating bullish momentum.

Moving Averages (MA) Analysis

- **MA 5 (5-day Moving Average):** 385
 - The current price is above the MA 5, suggesting short-term bullish momentum.
- **MA 10 (10-day Moving Average):** 387
 - The price is also above the MA 10, indicating continued short-term bullish momentum.
- **MA 20 (20-day Moving Average):** 392
 - The price is above the MA 20, showing strength in the short-term trend.
- **MA 30 (30-day Moving Average):** 402
 - The price is above the MA 30, indicating that medium-term momentum is also turning bullish.
- **MA 100 (100-day Moving Average):** 423
 - The price remains below the MA 100, confirming that the long-term trend is still weak compared to recent bullish sessions.



- **MA 120 (120-day Moving Average): 396**
 - The price is above the MA 120, suggesting some improvement in the long-term trend, though caution remains as it is still below the MA 100.

Support and Resistance

- **Immediate Resistance: 500**
 - This level has been tested multiple times and remains a key resistance point for a breakout.
- **Immediate Support: 406 (current price level)**
 - The current price may act as support, but if it drops below this level, the next significant support would be around the MA 100 at 423.

Stochastic Oscillator

- **Stochastic (K%: 100, D%: 33.33)**
 - The stochastic indicator shows that the market is in overbought territory, suggesting that while bullish momentum is strong, there could be short-term downward pressure or consolidation ahead.

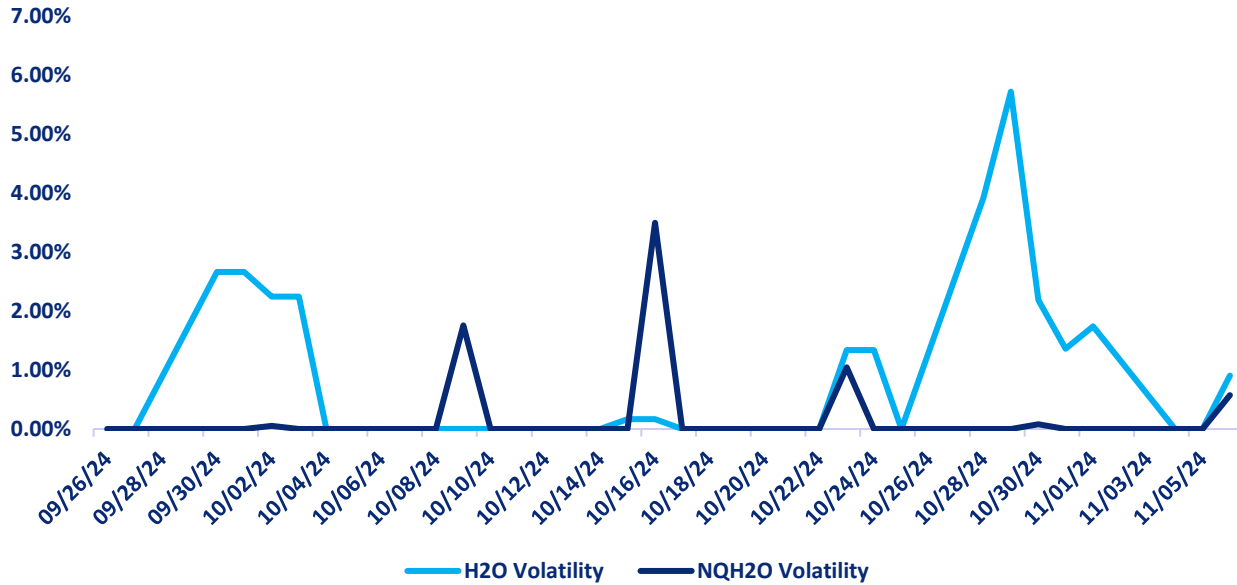
Summary

- The price is currently experiencing short-term and medium-term bullish momentum, sitting above the MA 5, MA 10, and MA 30.
- However, the long-term trend remains cautious as the price is still below the MA 100, despite being above the MA 120.
- The stochastic indicator signals that the market is in overbought territory, indicating potential for a pullback or consolidation in the short term.
- Key levels to watch: Immediate support at 406 and resistance at 500. If the price continues to rise, breaking above the MA 100 at 423 would be a positive long-term signal. Conversely, if the price declines, support around the MA 100 at 423 should be monitored closely.



H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the November contract daily future volatility has been 1.74%.

ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	29.24%	4.81%	2.35%	0.69%
H2O FUTURES	N/A	10.25%	8.87%	5.45%

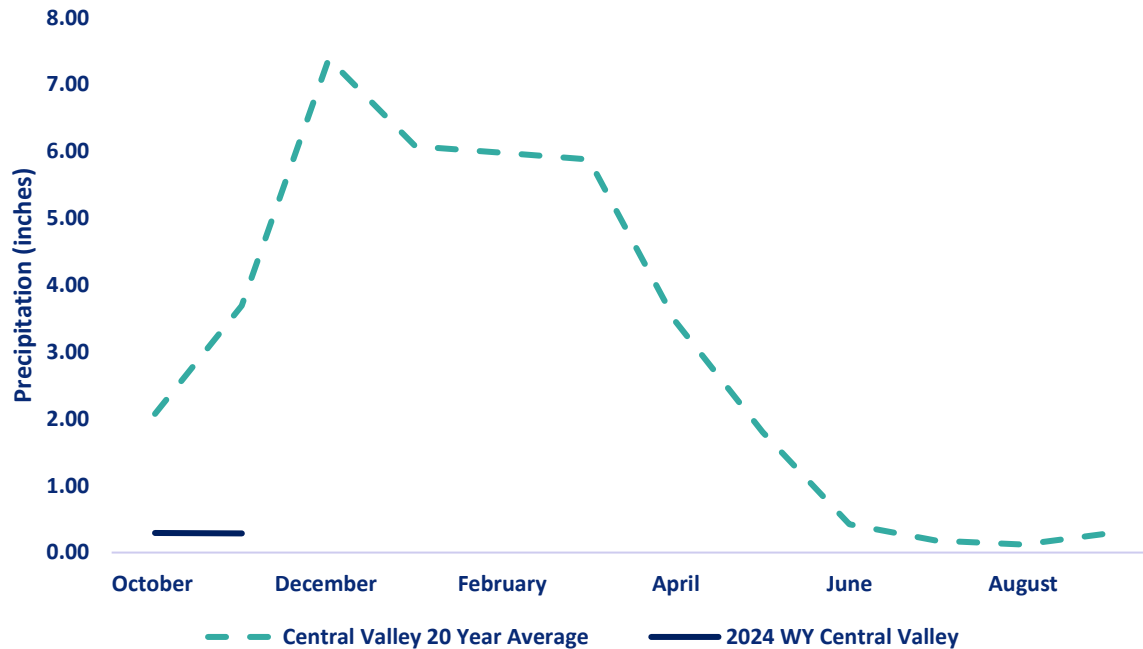
For the week ending on November 6th, the two-month futures volatility is at a premium of 5.44% to the index, up 1.43% from the previous week. The one-month futures volatility is at a premium of 6.52% to the index, up 3.21% The one-week futures volatility is at a premium of 4.76% to the index, volatility.

*Above prices are all **HISTORIC VOLATILITIES**. All readings refer to closing prices as quoted by CME.*



CENTRAL VALLEY PRECIPITATION REPORT

Central Valley Precipitation Index



Central Valley

average is calculated using data from 19 weather stations in the Central Valley, California.
Data as of 06/11/2024

STATION	MTD (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF 20 YEAR AVERAGE MTD	2025 WYTD VS 2024 WYTD %	2025 WY VS 20 YEAR AVERAGE TO DATE %
SAN JOAQUIN 5 STATION (5SI)	0.13	0.13	3.77	9	12
TULARE 6 STATION (6SI)	0.01	0.01	0.41	12	1
NORTHERN SIERRA 8 STATION (8SI)	0.72	0.97	13.93	22	40
CENTRAL VALLEY AVERAGE	0.29	0.37	7.76	14	0

RESERVOIR STORAGE

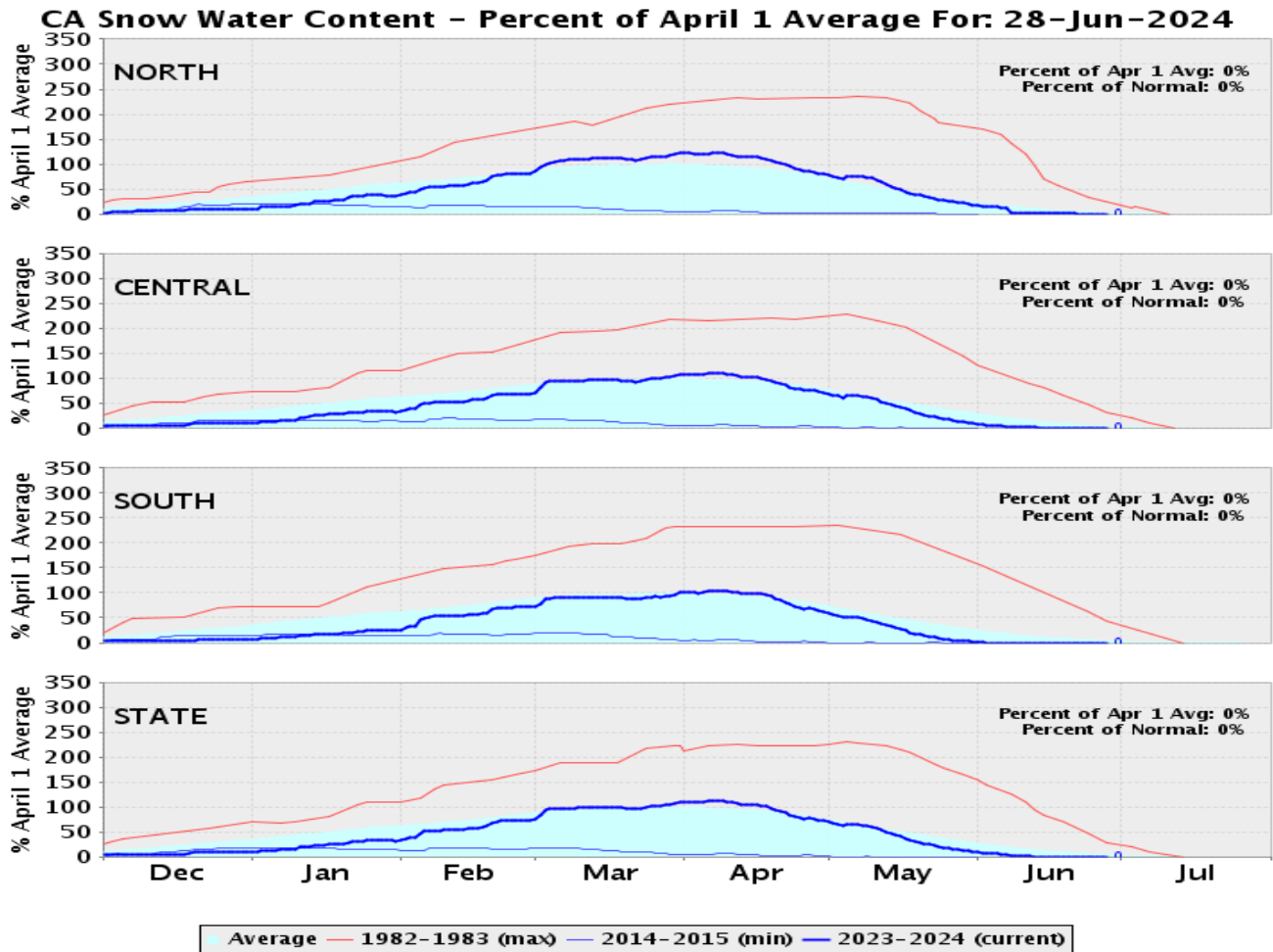
RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	1,610,894	66	50	114
SHASTA LAKE	2,572,166	57	69	106
LAKE OROVILLE	1,700,207	48	68	94
SAN LUIS RES	1,055,509	52	64	113

*% Historical Average is based on a daily average that is interpolated from historical monthly averages. The monthly averages are computed using monthly data from water year 1991 to 2020. The monthly averages are updated every 5 years using a sliding 30 year period.

[Reference: California Water Data Exchange](#)



SNOWPACK WATER CONTENT



REGION	*SNOWPACK WATER EQUIVALENT (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF AVERAGE LAST YEAR	% OF 20 YEAR HISTORICAL AVERAGE	% OF HISTORICAL **APRIL 1ST BENCHMARK
NORTHERN SIERRA	0	0	0	0	0
CENTRAL SIERRA	0	0	0	0	0
SOUTHERN SIERRA	0	0	0	0	0
STATEWIDE	0	0	0	0	0

*Snow Water Equivalent, or SWE, is a commonly used measurement used by hydrologists and water managers to gauge the amount of liquid water contained within the snowpack. In other words, it is the amount of water that will be released from the snowpack when it melts. SWE has regional variance.

** April 1st is used as the benchmark as it when the snowpack in California is generally deepest. It has been used the benchmark date since 1941 by DWR and can be used to predict spring river flow.



DROUGHT MONITOR

California

[Home](#) / California

Map released: Thurs. October 31, 2024

Data valid: October 29, 2024 at 8 a.m. EDT

Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

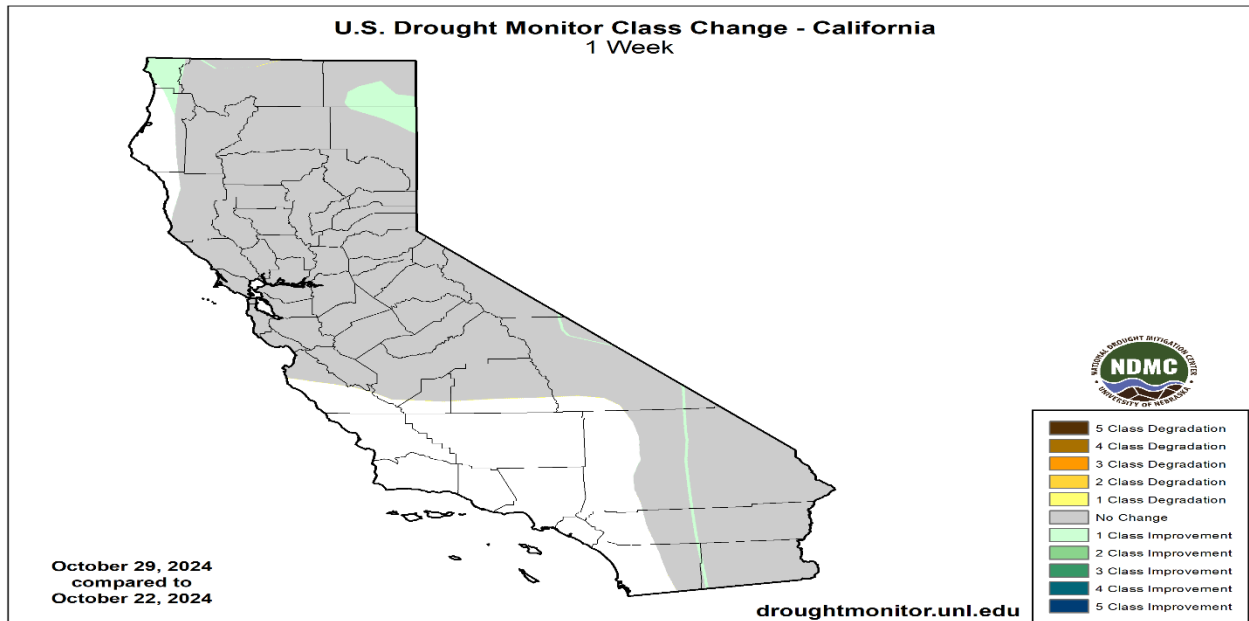
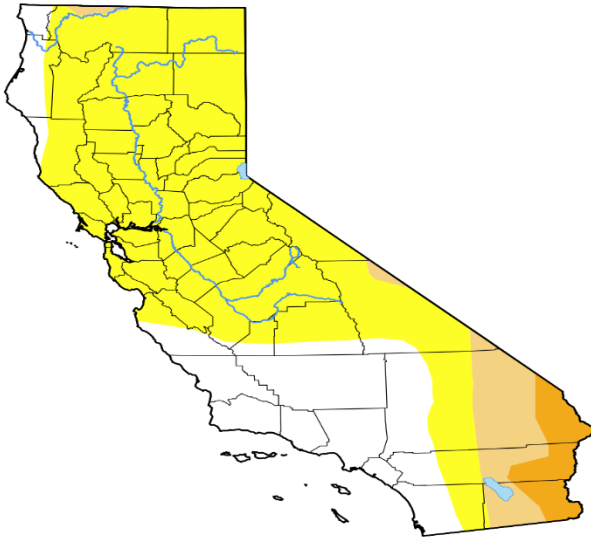
Authors

United States and Puerto Rico Author(s):

[Brian Fuchs](#), National Drought Mitigation Center

Pacific Islands and Virgin Islands Author(s):

[Richard Heim](#), NOAA/NCEI



October 29, 2024
compared to
October 22, 2024

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2024-10-29	25.37	74.63	12.26	4.30	0.00	0.00	91
Last Week to Current	2024-10-22	24.68	75.32	14.05	4.30	0.00	0.00	94
3 Months Ago to Current	2024-07-30	78.78	21.22	4.44	0.00	0.00	0.00	26
Start of Calendar Year to Current	2023-12-26	96.65	3.35	0.00	0.00	0.00	0.00	3
Start of Water Year to Current	2024-10-01	28.40	71.60	10.67	0.08	0.00	0.00	82
One Year Ago to Current	2023-10-31	94.34	5.66	0.00	0.00	0.00	0.00	6

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



CURRENT SATELLITE IMAGERY

The satellite picture shows 2 weather systems affecting the US. Firstly a frontal system has come off the Pacific and is moving over the northwest and affecting as far south as San Francisco. We expect it not to reach the LA area. Secondly a line of storms from Houston stretching in a northeasterly direction to north of the Great Lakes area moving eastwards.

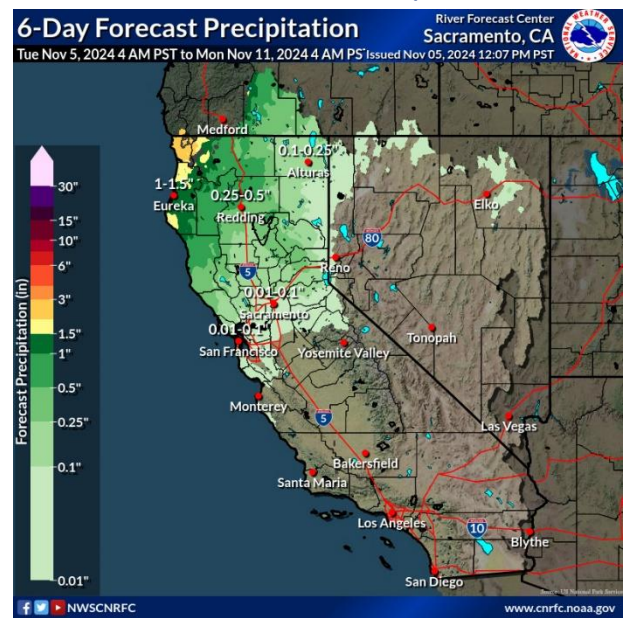


10 Day Outlook

Little change from the morning forecast as a frontal system is forecast to end the dry period beginning early Saturday morning. Changes made to the forecast were mostly done by working most recent NBM qpf which slightly increased precipitation accumulations by up to 0.10 inches from Saturday evening into Sunday.

While some convergence between the EC and GFS occurred during the most recent run, large uncertainty remains in association with the overall timing and magnitude of additional activity late this weekend into early next week. The GFS continues to track the parent low further south over the Pacific Northwest bringing heavier precipitation to northern California early monday morning. Afternoon forecasts saw little change only decreasing precipitation accumulations slightly over northern California by approximately a tenth of an inch from Sunday night into Monday. Forecasts will continue to update with new guidance as we approach the weekend.

Map Ref: Zoom Earth



Reference: National Weather Service / California Nevada RFC / Sacramento CA



WESTERN WEATHER DISCUSSION

The West was the one region that had substantial precipitation during the week, with rains in the areas of central to northeast Arizona, western Colorado, central to western Wyoming, central Utah, southern Oregon into Idaho and along the coastal areas of the Pacific Northwest. Minimal improvements were made to the abnormally dry conditions along the Oregon coast. Moderate drought improved in northern California and northern Nevada as well as into southern Oregon and Idaho. Abnormally dry conditions disappeared from the rest of southwest Colorado. Severe and extreme drought expanded in northern Colorado into southern Wyoming and severe drought expanded in western Wyoming.

Reference:

Lindsay Johnson, National Drought Mitigation Center
Richard Tinker, NOAA/NWS/NCEP/CPC



WATER NEWS

CALIFORNIA WATER NEWS

Why the election might not matter for California water

Former President Donald Trump and Gov. Gavin Newsom want you to believe they're on opposite ends of the spectrum on California water. But their policies aren't drastically different — and both lean toward the Republican-leaning farmers of the Central Valley. On the campaign trail, Trump has promised to force Newsom to turn on the faucet for water-strapped farmers if he is elected. Meanwhile, Newsom today finalized rules that insulate the state's endangered fish protections from federal changes.

But he's also advancing controversial proposals to store and move around more water, a perennial ask of the agricultural industry, and easing pumping limits meant to protect an endangered fish in order to send more water south to parched farms.

Newsom's positioning has put the otherwise green-leaning governor squarely on the foe list for environmental groups and garnered him credit from unlikely sources.

"At least as it relates to water, I think Gov. Newsom and former President Trump have very similar objectives," said Tom Birmingham, the former general manager of the San Joaquin Valley's Westlands Water District who maintains close ties to former Trump administration officials. "They are not dramatically different."

Both Newsom and Trump have long made overtures toward the state's agriculture-heavy, deep-pocketed Central Valley, which reliably votes Republican in contrast to most of the rest of California. But Trump's alignment with Republican lawmakers from the region who have long bashed environmental regulations — even if he stands no chance of scoring California's electoral college votes — has backed Newsom, who's leaned into his role as chief Trump antagonist, into a corner.

They took opposite tacks on the jointly-owned state and federal system of pumps, canals and reservoirs that moves water from Northern California to Southern California's cities and the Central Valley's farms. In his first term, Trump officials rewrote the system's operations plan, only for Newsom to withdraw the state from the plan and sue the feds. But Newsom's own version of the plan isn't all that different. Most water districts have supported the new plan, though some may see slightly less water, especially in dry years. But environmental groups have pointed out the plan would likely increase the number of fish killed at the pumps and nicknamed Newsom's plan "Trump-lite."

"From our perspective, this governor has been more hostile to salmon and the Bay Delta than any governor in 40 years," said Barry Nelson, a long-time environmental advocate in the region now consulting for the Golden State Salmon Association, a group representing fishing and environmental interests.



While Trump has pitched his policies as a way to restore the Central Valley's economy (and grind an ax against the tiny endangered Delta smelt), Newsom has pitched his as climate adaptation, as the state expects a ten percent decline in water supplies by 2040. He's embraced feel-good practices like groundwater recharge, but also big infrastructure projects — and neither a Trump win nor a Kamala Harris win will change their direction much.

Nelson calls the projects currently moving forward “the Big Three”: There's the Sites reservoir off the American River, which would be the first major dam in California in decades; updated water quality rules for the Bay-Delta, which Newsom wants to let some water districts bypass if they pay for large-scale habitat restoration; and the Delta Conveyance Project, Newsom's version of the decades old proposal to reroute water under the crumbling Sacramento-San Joaquin River Delta to Southern California.

Original Article: [Politico by Camille Von Kaenel](#)

California Makes Progress to Ensure Healthy Rivers and Landscapes – Includes Advancing Restoration Projects, Streamflows for Native Fisheries

California is advancing restoration projects, streamflows for native fisheries, and a science plan in the state's ongoing commitment to establishing and maintaining the health of our Sacramento River and Bay-Delta waterways and landscapes. By building partnerships rooted in science, California agencies and local water districts are driving progress in enhancing water reliability, restoring ecosystems, and supporting native fish populations.

More than two years ago, local, state, and federal agencies joined forces to advance a groundbreaking approach to water management and environmental restoration. The heart of this initiative is an eight-year Healthy Rivers and Landscapes Program, to improve environmental flows and restore habitats along California's key waterways. The goal: reverse the decline in native fisheries across the Sacramento and San Joaquin rivers and their tributaries.

Now under consideration by the State Water Resources Control Board, the Healthy Rivers and Landscapes framework is a potential alternative to traditional water quality regulations in the Sacramento-San Joaquin Delta and San Francisco Bay. This approach seeks to restore ecosystem health and improve water reliability, offering a more collaborative and adaptive strategy to protect both fish and wildlife and local economies. At the state level, this approach is being implemented and monitored by the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA) and two natural resources departments: The California Department of Water Resources (DWR) and the California Department of Fish and Wildlife (CDFW).

CNRA Secretary Wade Crowfoot emphasized the unique potential of voluntary agreements to achieve balance. “The science is clear, implementing habitat projects that



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incorporate local landscape water flows is crucial for the health of our fish and wildlife populations. The progress we've made in restoring California's rivers and ecosystems is a major win for our state and we're just getting started."

"California's native fish species and our communities need action now and we are committed to fostering a collaborative, science-driven approach to managing California's water to get that done," said DWR Director Karla Nemeth. "By working closely with our partners, we are making strides on multiple projects that strengthen our ability to protect fish populations and local economies."

"Thanks to unprecedented collaboration with our local, state, and federal water partners, we're already making progress in restoring key habitats and ecosystems through the Healthy Rivers and Landscapes program," said CDFW Director Charlton H. Bonham. "By staying focused on the science of restoration, and by continuing to develop important statewide partnerships, we can help ensure healthier habitats for California's fish and wildlife for years to come."

As the State Water Board continues the essential work to update the Bay-Delta Water Quality Control Plan, partners are proactively implementing no regrets habitat restoration and water purchases to benefit native fisheries, as well as defining a science plan to inform future water management decisions.

Examples of this progress includes:

- **Environmental Flows:** The Instream Flow Water Purchase Program launched by CNRA and DWR June 2023 will provide \$360 million to secure environmental water flows during ecologically crucial months. Proposals were submitted for nearly three times the available resources, and CNRA and DWR have identified the first two projects for preliminary intent to award – Healthy Putah Creek watershed project and Upper Swanston Ranch repurposing of agricultural water diversions for instream flows.
- **Habitat Restoration:** CDFW is working closely with DWR and partners to fund, permit, implement, and monitor spawning and rearing habitat restoration projects, fish passage projects, and floodplain restoration projects from Sacramento River tributaries through the Delta. These include Tide's End, a north Delta project that will restore and enhance more than 2,200 acres of tidal and floodplain habitat; the Little Egbert Tract, a 3,000-acre project in the north Delta that will address flood-risk reduction while also building habitat for salmon, steelhead, and Delta and longfin smelt; Prospect Island, a 1,600-acre tidal restoration in the Delta that will provide habitat for native Delta fish species and migratory fish; and Sunset Pumps, a partnership with Sutter Extension Water District to pursue removal of an existing rock weir and construct a replacement pump station equipped with fish-protective screens that will prevent predation of young salmon, steelhead and sturgeon.



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- Science-Based Framework: The Healthy Rivers and Landscapes Program also includes a Science Plan and Science Committee Charter that guide research and monitoring to inform adaptive water management decisions. This model of collaborative science is designed to evaluate ecosystem responses, close knowledge gaps, and help make real-time adjustments based on the latest data.

As the State Water Board considers incorporating the Healthy Rivers and Landscapes Program as a part of its process to update the Bay-Delta Water Quality Control Plan, partners will continue to advance key components, demonstrating the program's potential to deliver immediate benefits for California's waterways.

Under the Healthy Rivers and Landscapes Program, California is building a pathway toward healthier rivers and resilient landscapes, showcasing an alternative model for other states and regions.

Original Article: [Sierra Sun Times by CA DWR](#)

Cadiz Inc. Announces \$23 Million Registered Direct Offering

Cadiz, Inc. (NASDAQ: CDZI/CDZIP), a California water solutions company, today announced that it has entered into a placement agent agreement for the purchase and sale of an aggregate of 7,000,000 shares of its common stock in a registered direct offering (the "Offering") at a price of \$3.34 per share. The aggregate gross proceeds to the Company from the Offering are expected to be approximately \$23.38 million, before deducting the placement agent's fees and other offering expenses payable by the Company. The Company's largest equity shareholder, Heerema International Group Services SA ("Heerema"), participated in the Offering maintaining ownership of approximately 34% of the Company's common stock.

The Offering is expected to close on or about November 5, 2024, subject to the satisfaction of customary closing conditions.

The Company intends to use the net proceeds from the Offering to advance development of its water supply and groundwater banking project which may include acquisition of equipment and materials intended to be used in construction of facilities related to its northern and /or southern pipeline projects which the Company expects to begin in 2025. Net proceeds from the Offering may also be used for the equipment and materials related to wellfield infrastructure on land owned by it and its subsidiaries, business development activities, other capital expenditures, working capital, the expansion of the business and acquisitions, and general corporate purposes.

B. Riley Securities is acting as the sole placement agent in the registered direct offering.

Original Article: [PR Newswrie by Cadiz Inc](#)



Invasive mussel found in North America for first time, posing immediate threat in California's Delta

A particularly worrisome mussel species has entered North America for the first time through the Sacramento-San Joaquin River Delta — sparking what many are calling an immediate threat to California's most significant watersheds.

Golden mussels, invasive freshwater bivalves that have devastated ecosystems and critical water infrastructure in other parts of the world, were recently discovered near the Port of Stockton. *Limnoperna fortunei* appear to have also found their way many miles downstream into O'Neill Forebay of the San Luis Reservoir, where officials in Merced County have been rapidly conducting genetic testing.

"The species poses a significant immediate threat to the ecological health of the Delta and all waters of the state, water conveyance systems, infrastructure and water quality," according to a public alert by the California Department of Water Resources and the California Department of Fish and Wildlife. "This discovery is the first known occurrence of golden mussels in North America."

These mussels probably infiltrated California by a ship traveling from an international port and are likely to spread throughout the Delta and through the water infrastructure associated with the Delta, officials said in a statement. "Without containment, golden mussels are likely to spread to other freshwater bodies in California, and to other ports and inland waters of North America, and abroad."

These tiny dark-yellowish mollusks, native to rivers in China and Southeast Asia, have already wreaked havoc in South America, and for years have kept officials and ecologists across the United States on high alert. In each country where the mussels have taken over, the initial introduction also appeared to be from ships — on the hulls or from ballast water release.

And in most of these cases elsewhere, the golden mussel's range rapidly expanded up or downstream from the point of introduction — usually at a port and then through local, human-mediated pathways, officials said.

Both a freshwater and brackish species, the golden mussel can tolerate wide ranges in salinity, temperature and pH levels, and can travel much farther than people might think. Shortly after fertilization, the larvae become mobile and are capable of coordinated swimming as they disperse in the water column.

Golden mussel takeovers in other countries have shown that the species can grow in clumps or colonies containing as many as 80,000 to 200,000 organisms per square meter.

Wildlife officials have noted that the golden mussel can survive in considerably lower-calcium waters than either the quagga or zebra mussel, which have caused quite a few problems across lakes and reservoirs in California, as well as in the Great Lakes region and in many other lakes across the United States.



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In addition to disrupting the ecological balance of an entire fresh body of water, golden mussels pose a significant threat to California's water infrastructure. These mussels can clog critical water intakes and fish screens and also foul major pipes relied on for water supply.

Agricultural irrigation and power plant operations could also be significantly impeded, and if past mussel infestations are any indication, golden mussels could also severely affect boating and recreation by encrusting docks, engines and steering equipment.

Original Article: [The LA Times by Rosanna Xia](#)

Here's how California can conserve 30% of our lands and coastal waters by 2030

Four years ago, California set the ambitious goal of conserving 30% of our lands and coastal waters. We're not there yet. And achieving what is known as "30x30" is about more than just numbers, it's about the health of our ecosystems and the well-being of our communities. As of 2024, we have protected 25.2% of our lands and 16.2% of our coastal waters. Last year alone, California conserved an area exceeding the size of Yosemite National Park. Collectively, these efforts are the result of collaboration among government leaders, agency representatives, nonprofits, tribes and community members. TOP VIDEOS The video player is currently playing an ad. You can skip the ad in 5 sec with a mouse or keyboard While these numbers represent significant progress, they don't tell the full story. It's one thing to protect California land. It's another thing to return them to a more natural condition. Many unprotected areas — degraded by over a century of intensive human development — will need active restoration in the next five years to achieve our climate and biodiversity goals. After enduring the hottest summer on record and grappling with severe floods, the need for restoration at scale has never been clearer. Sometimes, California's regulatory structures that were intended to protect the environment can get in the way of speedy restoration. One powerful tool to help scale up restoration is to develop regulatory permitting pathways specifically designed to speed up restoration projects. Basically, these are ways to reduce bureaucratic hurdles while ensuring environmental protections remain intact. They incentivize more projects that enhance ecosystem resilience and protect communities from climate impacts like floods and fires.

Original Article: [The Sacramento Bee by Wade Crowfoot and Ashley Boren](#)



US WATER NEWS

EPA announces \$3.6 billion in funding under BIL

On Oct. 23, the U.S. Environmental Protection Agency (EPA) announced \$3.6 billion in new funding under the Biden-Harris administration's Bipartisan Infrastructure Law (BIL) to upgrade water infrastructure. Combined with \$2.6 billion announced earlier in October, EPA said the \$6.2 billion in investments for Fiscal Year 2025 will help communities across the country upgrade essential water infrastructure.

This funding is part of a five-year, \$50 billion investment in water infrastructure through the BIL. To ensure investments reach communities that need them the most, the Bipartisan Infrastructure Law mandates that a majority of the funding announced on Oct. 23 must be provided to disadvantaged communities in the form of grants or loans that do not have to be repaid.

“Water keeps us healthy, sustains vibrant communities and dynamic ecosystems, and supports economic opportunity. When our water infrastructure fails, it threatens people’s health, peace of mind, and the environment,” said EPA Administrator Michael S. Regan. “With the Bipartisan Infrastructure Law’s historic investment in water, EPA is working with states and local partners to upgrade infrastructure and address local challenges—from lead in drinking water, to PFAS, to water main breaks, to sewer overflows and climate resilience. Together, we are creating good-paying jobs while ensuring that all people can rely on clean and safe water.”

These Bipartisan Infrastructure Law funds will flow through the Clean Water and Drinking Water State Revolving Funds (CWSRF and DWSRF), a long-standing federal-state water investment partnership. This multibillion-dollar investment will fund state-run, low-interest loan programs that address key challenges in financing water infrastructure. Today’s announcement includes allotments for Bipartisan Infrastructure Law Clean Water General Supplemental funds (\$2.6 billion) and Emerging Contaminant funds (\$225 million), and \$800 million under the Drinking Water Emerging Contaminant Fund.

EPA is changing the odds for communities that have faced barriers to planning and accessing federal funding through its Water Technical Assistance program, which helps disadvantaged communities identify water challenges, develop infrastructure upgrade plans, and apply for funding. Communities seeking Water Technical Assistance can request support by completing the WaterTA request form. These efforts also advance the Biden-Harris Administration’s Justice40 Initiative, which sets the goal that 40% of the overall benefits of certain Federal investments flow to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution.



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To read stories about how unprecedented investments in water from the Bipartisan Infrastructure Law are transforming communities across the country, visit EPA's Investing in America's Water Infrastructure Storymap.

Original Article: [Water FM](#)

Arizona nears approval for advanced water purification

It's been discussed and debated for decades.

But Arizona is finally at the point where cities and utilities will soon be able to get permits to deliver drinking water to faucets that just days earlier had been flushed down the toilet.

The Arizona Department of Environmental Quality on Monday took the required legal steps to publish the draft rules for what it's calling "advanced water purification." Randall Matas, the agency's deputy director, said final approval could come by the end of the year, paving the way for water suppliers to construct the facilities.

Matas said the technology is good enough to actually produce water that is purer than the treated groundwater or surface water that is now being delivered. He said it even removes chemicals that are not prohibited by the Safe Water Drinking Act.

But the question remains of whether Arizonans will accept it.

Put simply, there is a bit of an "ick factor" that, regardless of what people may understand about the chemistry and the process, may still seem to some as "toilet to tap."

DEQ and even the state Department of Water Resources has worked for years to tamp down that phrase.

Still, it has been a process.

For some time, it was being promoted by the more sanitized name of "direct potable reuse."

Matas said that rebranding it as advanced water purification was based, at least in part, on testing what is acceptable to consumers. But that, he said, is just a small part of the story.

"The main reason for the change is it just more accurately reflects what this purified water is," Matas explained. He said that words like "re-use" and "recycling" have "meanings that don't provide an insight into what's happening."

"We felt that 'advanced water purification' was a better description of what this is, that there's an advanced treatment stream that purifies this water and provides that safe and healthy drinking water," Matas said.

Yet, even with all that, there is not universal acceptance.

"ADEQ did two studies statewide to assess people's thoughts on advanced water purification, water security and other issues," he said. The result, said Matas, is 77% of



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those who answered the surveys were “not opposed to the technology or were in favor of the technology.”

Still, when asked whether they would be likely to drink AWP water, the feelings were divided.

A third said very likely. But 42% said “somewhat likely,” with 15% falling into the “somewhat unlikely” category and 10% saying there were unlikely to drink it at all.

Among those who fall into the unlikely category, 38% said they were skeptical about safety.

Matas said he believes some of that that can be addressed by showing how the the standards that are being adopted can remove, in his words, 99.9999999999% of contaminants. He said that includes things ranging from viruses and opiates to antibiotic-resistant bacteria.

Troy Hayes, water services director for the city of Phoenix, said it’s a question of education and socialization.

He said his city is revamping its Cave Creek treatment facility to meet the new standards. Once that happens, Hayes said, he envisions giving people tours to see what happens, show them it can treat water beyond what is now being delivered to homes from the Salt and Verde river systems – and taste the results.

Scottsdale already is doing that, with a plant that is treating sewage to drinking water standards. And while that’s not yet being put into the pipes going to people’s homes – the city still needs a DEQ permit to do that – Scottsdale is showing off what can be produced by working with local breweries to produce beer.

And there’s something else: Educating consumers to understand they already are drinking recycled water.

“There isn’t new water on the planet,” Hayes said, saying it’s the same water that was around at the time of the dinosaurs.

The difference is that sewage is being put into the ground and then being filtered, as it were, through layers of rock and soil, only to be pumped out at some future point. This just replaces that natural process with technology and filters.

But even if people understand that intellectually, that doesn’t overcome opposition: Nearly one in five of those who told DEQ they were unlikely to drink AWP water cited what the survey said was the “yuck factor.”

There is another concern: Cost of all this technology that eventually will have to be passed on to consumers. And none of this extra level of processing sewage is likely to come cheap.

“It will depend a lot on the specific utility,” Matas said.

“There is an economy-of-scale factor that is at play,” he said. “The more water you can get treated, the more efficient the process is.”



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There's also the fact that DEQ is not telling utilities exactly what they need to build. Instead, the agency simply has detailed what has to come out at the other end to be used for drinking.

Original Article: [AZ Capitol Times by Howard Fischer](#)

Hobbs agrees to review 100-year water supply for Sierra Vista housing development

Arizona Gov. Katie Hobbs agreed to review the state's 100-year designation of adequate water supply for a Sierra Vista housing development.

Conservation groups, including the Center for Biological Diversity, sued the state in August to demand the review and revocation of the state's 100-year water supply guarantee for the Pueblo Del Sol Water Company.

Robin Silver is one of the founders for the Center for Biological Diversity. He says homes in the development would rely on groundwater that feeds the nearby San Pedro River, and could put the river at risk.

"This makes the Pueblo Del Sol designation of adequacy for a hundred years a farce. It's still a lie. And we challenged that in court," he said.

The lawsuit also alleges violations of the San Pedro Riparian National Conservation Area. Silver says the settlement lets action to be taken.

"This settlement with the governor forces the governor to reevaluate the designation of water adequacy for Pueblo Del Sol, the largest developer in the Fort Huachuca-Sierra Vista area," he said.

Silver says the center is prepared to sue the governor again if the designation isn't revoked.

Original Article: [KJZZ Phoenix by Ignacio Ventura](#)

Feds Invest \$82 Million in Clean Water for Tribes

For many Native communities in the Western United States, poor water quality and water shortages are a part of daily life. Citizens of the Navajo Nation regularly travel up to two hours one way to fill barrels of water at access points across the reservation; in recent years, tribes across the region have issued emergency declarations or advisories for water shortages caused by record-breaking droughts or contaminated water.

That could change, thanks to an \$82M investment in clean drinking water announced by the Department of Interior last week that will fund clean water infrastructure in 23 Tribal communities.

The announcement was made last week at the San Carlos Apache Tribe reservation in eastern Arizona by Bureau of Reclamation Deputy Commissioner David Palumbo and Deputy Assistant Secretary for Water and Science Gary Gold. The tribe receives \$7.3 million to plan, design, and obtain approvals and permits for new raw



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water delivery and domestic drinking water treatment facilities for the San Carlos Regional Water System. The system serves the central portion of the reservation. Much of the tribe's population resides in this area and does not have access to safe and reliable drinking water. The area is prone to frequent water curtailments or shutdowns due to poor water quality and system mechanical failures, which often occur in the hot summer months.

“Investing in water infrastructure projects is crucial to ensuring the health, safety, and economic prosperity of Indigenous communities,” Secretary Deb Haaland (Laguna Pueblo) said in a statement. “This new program, funded by the President’s Investing in America agenda, will help us ensure all Tribal families and communities have access to the clean, safe drinking water they need in order to thrive.”

The project funding draws from the Inflation Reduction Act, which includes \$550 million for domestic water supply projects in historically disadvantaged communities.

Original Article: [Native News Online by Elyse Wild](#)

On the Colorado River, water rights are more valuable than gold

The Colorado River is in trouble.

The 1,450-mile river sweeps across the Rocky Mountains into the Gulf of California, providing water to over 40 million people in seven states.

The river has lost nearly 20% of its water, reaching crisis levels in recent years. If water levels drop too low, there may not be enough water to generate electricity to meet all of the resident's needs. Climate change has intensified the problem, including a once-in-a-millennium drought from 2011 to 2017.

Alarm bells are going off for several more reasons. A population boom means more residents in need of drinking water. Water-guzzling agricultural interests such as mega-dairies need 218 million gallons of water every single day for washing and drinking, as Food and Water Watch reports. Industrial farms also guzzle up millions of gallons of water every day, and the oil and gas industry likewise requires mass amounts to operate.

But it wasn't supposed to be this way.

In 1922, the seven states that relied on the Colorado River for water signed a lengthy, complex pact, the Colorado River Compact. Known as the “Law of the River,” the pact was supposed to give each state enough water to meet their needs.

Unfortunately, it didn't work out that way. For decades, corporations, environmentalists, Native American tribes, and the states of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming have fought over water. Each has sent competing proposals to the federal government to help decide the river's future.

The seven states negotiated a complex agreement among themselves with “interstate compacts, federal laws, court decisions and decrees, contracts and federal actions”



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to regulate how much water each state was allocated, or their so-called water rights. The agreement also included the water rights to more than two dozen Native American tribes.

At the time the agreement was signed, there was enough water to meet the needs of all of the states and tribes. But the states severely underestimated how much water was needed to meet the needs of a growing population, thirsty industries, and greedy outsiders.

Part of the problem can be traced to the “water rights loophole.”

Closing the loophole

Researchers argue in a paper recently published in the “Water Resources Research” journal there is a “free river condition” loophole in the Colorado Water System that must be addressed, or the problems will worsen.

“Under these conditions, anyone—whether or not they own a water right—can divert as much water as they’d like until a senior user downstream makes a ‘call’ on the river because they no longer have enough water to satisfy their right,” the paper argues. The authors recommend the government close the loophole and come up with alternative policies.

If the government does not close the loophole, it is possible that corporations will take advantage of a confusing array of regulations and transfer ownership of water rights to themselves.

Corporate outsiders buy up water rights

We are already seeing the corporate takeover of “water rights” play out.

In Cibola, Arizona, Greenstone Resource Partners LLC, an investment company that owns GSC Farm, LLC, purchased nearly 500 acres of agricultural land in 2013 and 2014, the Guardian reported. The town is home to fewer than 300 residents. Greenstone was the “first water brokerage firm to sell rights to the Colorado River,” and almost no one paid attention.

The company then sold the water rights to the land to the town of Queen Creek, a suburb of Phoenix, for a \$14 million gross profit in 2018.

“More than 2,000 acre-feet of water from the Colorado River that was once used to irrigate farmland is now flowing, through a canal system, to the taps of homes more than 200 miles away,” the Guardian reported.

Cibola residents were shocked. They thought GSC Farm was a farm. But it was, as the Guardian uncovered, a “water investment firm that had brokered water transfer deals all across the southwest.”

The company had acquired thousands of acres of farmland across Arizona, operating under 25 other names and affiliates.

Companies such as Greenstone and others have “been discreetly acquiring thousands of acres of farmland,” to meet the demand of millions of new residents moving into west.



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“Officials challenging the Greenstone transfer in court fear it will open the floodgates to many more private water sales, allowing investors to profit from scarcity,” the Guardian reported.

It shocked Cibola residents that an outside corporation could siphon their water away from them. But it’s all about water rights passed down since the 1922 agreement was adopted.

As the water supply shrinks in the west, more corporations may take advantage of confusing water rights regulations and rules, and also inexperienced government officials and residents.

Conclusion

If there are more droughts, and as climate change plays havoc with water supplies, there is no doubt that water rights are more valuable than gold. The western states, with input from environmentalists, the government, and other interested parties, must make changes to the original 1922 Colorado River Compact, or water shortages are destined to get worse.

Original Article: [Equities.com](https://www.equities.com/news/2022/08/24/veles-water-weekly-report) by [Michael Sincere](#)

Texas sued New Mexico over Rio Grande water. Now the states are fighting the federal government.

When Judge D. Brooks Smith traveled from Pennsylvania to Colorado, he passed over the 98th Meridian, the longitude line separating the water-rich East from the arid West. The former chief judge of the U.S. Third Circuit Court of Appeals left a land of rushing rivers and ample rainfall in western Pennsylvania to gather facts in a case called Texas v. New Mexico Supreme Court over water rights from the Rio Grande.

Now a senior judge in the Third Circuit, Smith is serving as a special master to advise the U.S. Supreme Court on what is one of the longest-running disputes over dwindling water in the West, which also involves the federal government.

Smith traveled for a five-hour status conference last week at Denver’s federal courthouse involving attorneys representing the states, the federal government and several intervenors known as friends of the court.

At issue is the water Texas and New Mexico are entitled to under the Rio Grande Compact, signed in 1938 to allocate the waters of the Rio Grande between the states. Texas brought the current lawsuit against New Mexico in 2013, alleging that farmers pumping from groundwater wells in southern New Mexico were diverting water that the compact allocates to Texas.

The states reached a proposed settlement agreement in 2022 out of court. But the federal government opposed the deal. The Supreme Court then ruled in June that the case could not be settled without the federal government’s consent. Now the states and the federal government must resolve their disagreements to avoid going to trial in



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federal court, and Smith has ordered the parties to return to mediation no later than Dec. 16 in Washington, D.C.

The outcome of *Texas v. New Mexico* could fundamentally change how groundwater is managed in the Rio Grande basin in New Mexico and far west Texas, both for the agricultural industry and cities like Albuquerque and Las Cruces, in New Mexico, that pump water from aquifers. It will also be a bellwether for how deeply the federal government can intervene in inter-state water conflicts, which are likely to increase as drought and aridification grip the western United States.

“[The United States] is going to have to take some sort of action to get a handle on groundwater over-pumping,” said Burke Griggs, a professor of water law at Washburn University in Topeka, Kansas. “They really do want to keep the case alive.”

Groundwater pumping complicates water sharing agreements

The Rio Grande forms in the San Juan Mountains of Colorado before flowing south through New Mexico to the Texas border. By the turn of the 20th century, disputes over Rio Grande water were brewing between farmers in southern New Mexico’s Mesilla Valley and those in El Paso and neighboring Ciudad Juárez in Mexico.

To address these concerns, Congress extended the Reclamation Act of 1902 to the Rio Grande in 1905 through the Mesilla Valley and El Paso. This allowed the Bureau of Reclamation, the federal agency responsible for water management and dam building in 17 Western states, to undertake the Rio Grande Project, which included construction of the Elephant Butte Dam in New Mexico and irrigation infrastructure downstream.

Once completed, the Bureau of Reclamation began delivering water stored at Elephant Butte to two new irrigation districts: New Mexico’s Elephant Butte Irrigation District, and the El Paso County Water Improvement District No. 1 in Texas.

Further complicating matters, the U.S. and Mexico signed a treaty in 1906 committing the U.S. to providing 60,000 acre feet of Rio Grande water to Mexico at Ciudad Juárez annually.

Original Article: [Texas Tribune by Martha Pskowski](#)



GLOBAL WATER NEWS

Thames Water is desperate for cash. But board should still exploit bondholder rivalry

Roll up, roll up, who wants to lend £3bn to Thames Water, a company already drowning in debt? It turns out a lot of people do. Two rival groups of existing creditors – one representing the A class of bondholders, the other the junior Bs – have tabled proposals to provide the company with a “liquidity runway”, meaning emergency cash to get it through the next year or so.

At some point in that period, it is hoped, Thames would set about the more fundamental task of imposing losses on those same debtholders to clear the decks for new shareholders to inject capital. None of this is straightforward and some of today’s bondholders will probably also be tomorrow’s shareholders, assuming a debt-for-equity swap is possible. And “runway” is probably the wrong metaphor. We’re really talking about a sticking plaster before the main surgery on the balance sheet can begin.

But the price and design of that sticking plaster matters. It is why the board of Thames would be unwise to wed itself too tightly to the proposal it announced 10 days ago. That was from the As, who are clearly in the lead at this point and on Monday tried to rally other creditors around their plan.

First, they got in first. Second, the size of the class A debt, with a face value of £12bn, is much larger than the B borrowings; that is relevant because approval of 75% of both classes of creditors is required. Third, the As are being more transparent about who they are – the lineup of names included not just the US hedge funds Elliott and Silver Point, the controversial headliners that were already known, but also mainstream UK names such as abrdn and M&G.

But there is a very obvious problem with the A proposal: it looks hellishly expensive, even for a deeply distressed borrower such as Thames. The new money would come at an annual interest of 9.75%. That is aggressive when the new debt would have “super senior” status – in other words, rank above the A bonds in the hierarchy of claims.

The proposal also carries all manner of fees and charges that would lift the effective rate of interest even higher. And the money would come in two tranches – an initial £1.5bn to last until October 2025, and then a second £1.5bn if Thames skips off to the Competition and Markets Authority to dispute Ofwat’s final view on future bills that will arrive in December.

The Bs, by contrast, would lend at the lower rate of 8% (again in “super senior” form) and provide the full £3bn upfront. And, they say, the assortment of fees would be substantially lower, albeit the degree is disputed. The drawback is that the proposal is not yet fully nailed down in the sense of boasting a legally binding commitment from lenders to advance the sum. But that could come within days.



If it does, the stance of the board of Thames will be crucial. The safety-first option would be to stick with As because they're more muscular and their current debt is trading at 70p in the pound rather than 15p-ish for the Bs. But that would surely be indefensible if better terms – possibly up to £500m once everything is added up – are potentially available.

The sensible approach for Thames's board would be to generate as much competitive tension as possible. A state of war between rival groups of bondholders is not unexpected since both sides are jostling for position in the eventual debt-for-equity restructuring. At this stage, though, the job of the chair of Thames, Sir Adrian Montague, should be to try to play the two camps off against each other.

Original Article: [The Guardian by Nils Pratley](#)

Southern Water successfully issues £300m bond

Southern Water has announced it has secured £300 million of additional debt financing following the completion of a bond issuance on 4th November, 2024.

The water company said the latest bond issuance was oversubscribed, suggesting ongoing strong support for the business amongst the investment community. With this issuance, Southern Water has successfully secured c. £1.5 billion of new debt financing over the past 12 months. The company's shareholders have also injected more than £1.6 billion of fresh equity into the Southern Water group since 2021.

Southern Water said this latest issuance adds to its already strong liquidity position and will provide additional funding certainty while awaiting Ofwat's Final Determination on its 2025-30 business plan. Southern Water continues to maintain three investment grade credit ratings from Standard and Poor's, Moody's and Fitch, despite the decision by Standard and Poor's last week to take negative action.

Stuart Ledger, Chief Financial Officer of Southern Water said:

"The success of this bond issuance at a time when investors are looking closely at the wider sector and regulatory landscape is a strong endorsement of the work our teams are progressing to improve our operations for the benefit of customers and the environment."

Original Article: [Water Magazine](#)

China releases ecosystem restoration guides to boost coastal disaster resilience

Four handbooks on ecosystem restoration for coastal hazard mitigation, focusing on salt marshes, seagrass beds, oyster reefs, and sandy coasts, were released in both Chinese and English, officials said on Tuesday. The guides aim to provide a "Chinese solution" to global coastal ecological challenges by showcasing examples of disaster reduction and restoration practices.



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Jointly issued by the Ministry of Natural Resources and the International Union for Conservation of Nature at the 2024 China-Island Countries Ocean Cooperation Forum, the handbooks compile research findings and restoration strategies for coastal ecosystems, including insights from both domestic and international sources, according to Li Lin, director of the marine warning and monitoring department of the Ministry of Natural Resources.

The handbooks explain each step in the technical process, including baseline ecological surveys, diagnostics, restoration goals and measures, as well as monitoring, effectiveness evaluation, and adaptive management, Li said.

Since 2020, the Ministry of Natural Resources, along with the Ministry of Water Resources, the National Development and Reform Commission, the Ministry of Finance, and other agencies, has promoted coastal protection and restoration projects. These efforts have strengthened ecosystems' capacity to mitigate marine disasters like typhoons and storm surges. The release of the handbooks is intended to guide these practices, Li added.

Original Article: [Gov.cn State Council](#)

Note the attachment is not an inducement to trade and Veles Water does not give advice on investments.