

Veles Water Weekly Report

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VelesWater



WATER FUTURES MARKET ANALYSIS

Welcome to ***WATERTALK***

by Joshua Bell

CLICK THE LINK BELOW

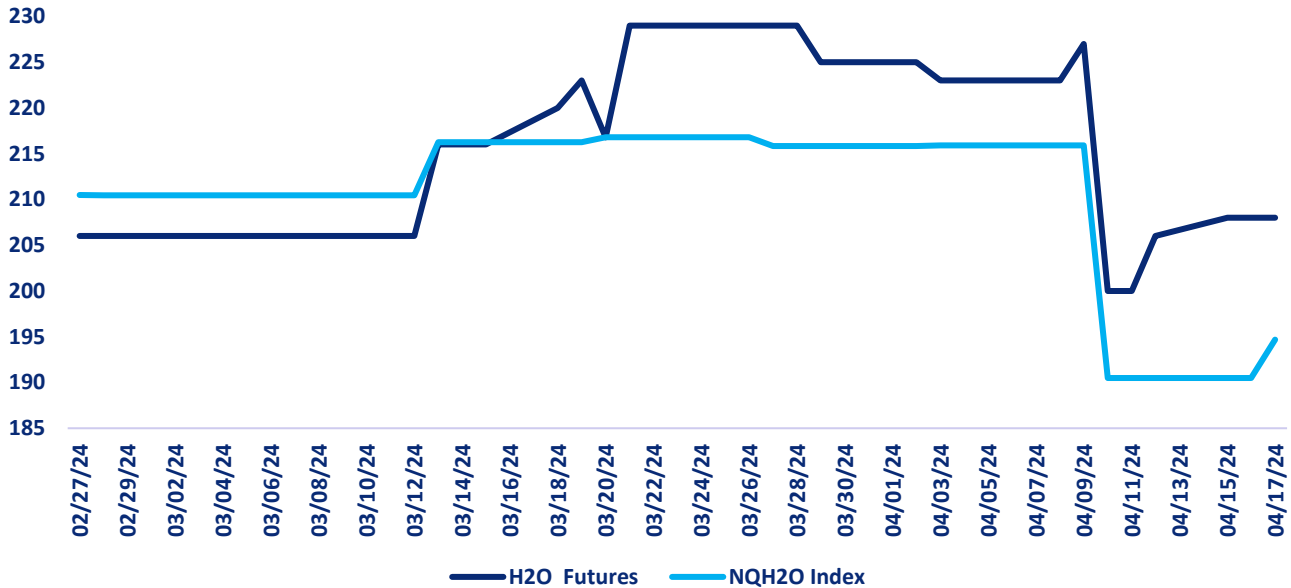
"A 2 minute technical analysis video of H2O futures"

<https://vimeo.com/936157743?share=copy>



NQH2O INDEX PRICE vs H2O FUTURES PRICE

1 Month Price Performance NQH2O Index vs H2O Futures



Price Chart Based upon Daily Close

The new NQH2O index level of \$194.70 was published on April 17th up \$4.21 or 2.21% from the previous week. The April contract settled at the new index level and the May is considered the front month. The futures have been closing at a premium of \$9.51 to \$17.51 versus the index over the past week.

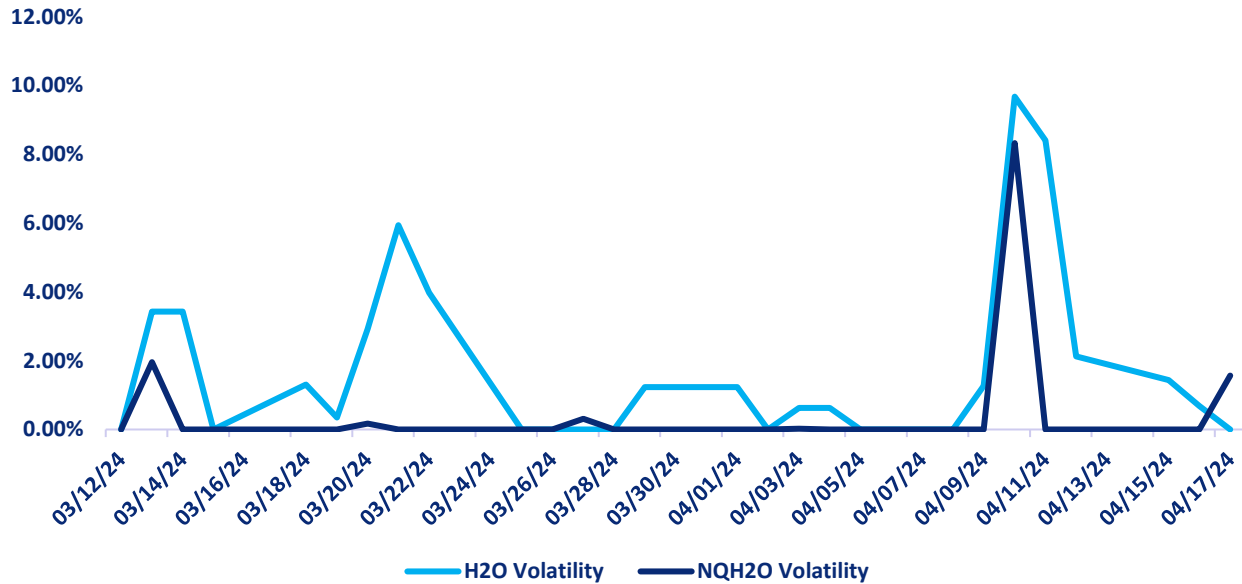
Below are the bid offer prices on different expiries being quoted in the market.

May 24	204@210
Jun 24	220@241
Jun 25	304@365



H2O FUTURES AND NQH2O INDEX VOLATILITY ANALYSIS

Daily H2O Futures Volatility vs Daily NQH2O Index Volatility



DAILY VOLATILITY

Over the last week the April contract daily future volatility high has been 8.41%.

ASSET	1 YEAR (%)	2 MONTH (%)	1 MONTH (%)	1 WEEK (%)
NQH2O INDEX	54.62%	11.41%	15.05%	13.99%
H2O FUTURES	N/A	15.55%	14.13%	2.91%

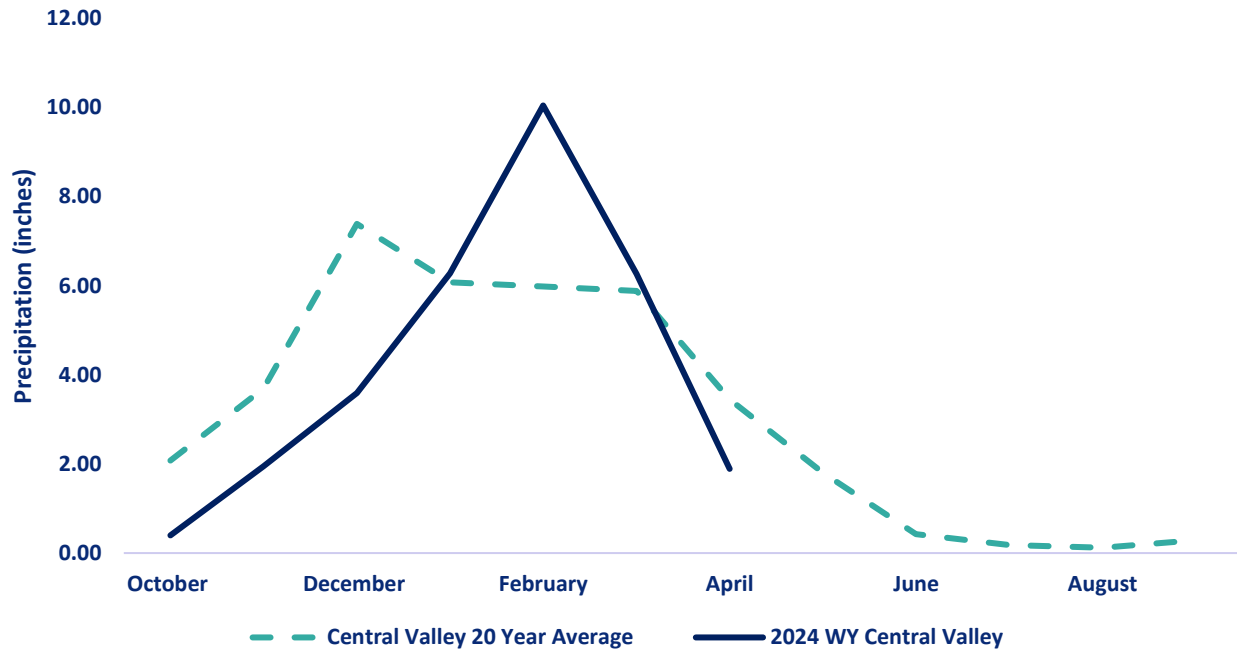
For the week ending on April 17th, the two-month futures volatility is at a premium of 4.14% to the index, down 0.59% from the previous week. The one-month futures volatility is at a discount of 0.93% to the index, a reversal of 1.74%. The one-week futures volatility is at a discount 11.07% to the index, a reversal of 11.72% from the previous week.

*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 17/04/2024

STATION	MTD (INCHES)	WEEK ON WEEK CHANGE (INCHES)	% OF 20 YEAR AVERAGE MTD	2024 WYTD VS 2023 WYTD %	2024 WY VS 20 YEAR AVERAGE TO DATE %
SAN JOAQUIN 5 STATION (5SI)	2.73	0.75	76.61	176	89
TULARE 6 STATION (6SI)	1.62	0.87	63.05	204	86
NORTHERN SIERRA 8 STATION (8SI)	1.32	0.91	31.34	131	95
CENTRAL VALLEY AVERAGE	1.89	0.84	54.81	170	90

RESERVOIR STORAGE

RESERVOIR	STORAGE (AF)	% CAPACITY	LAST YEAR % CAPACITY	*% HISTORICAL AVERAGE
TRINITY LAKE	2,063,247	84	38	111
SHASTA LAKE	4,352,216	96	92	117
LAKE OROVILLE	3,208,423	91	88	122
SAN LUIS RES	1,492,678	74	99	87

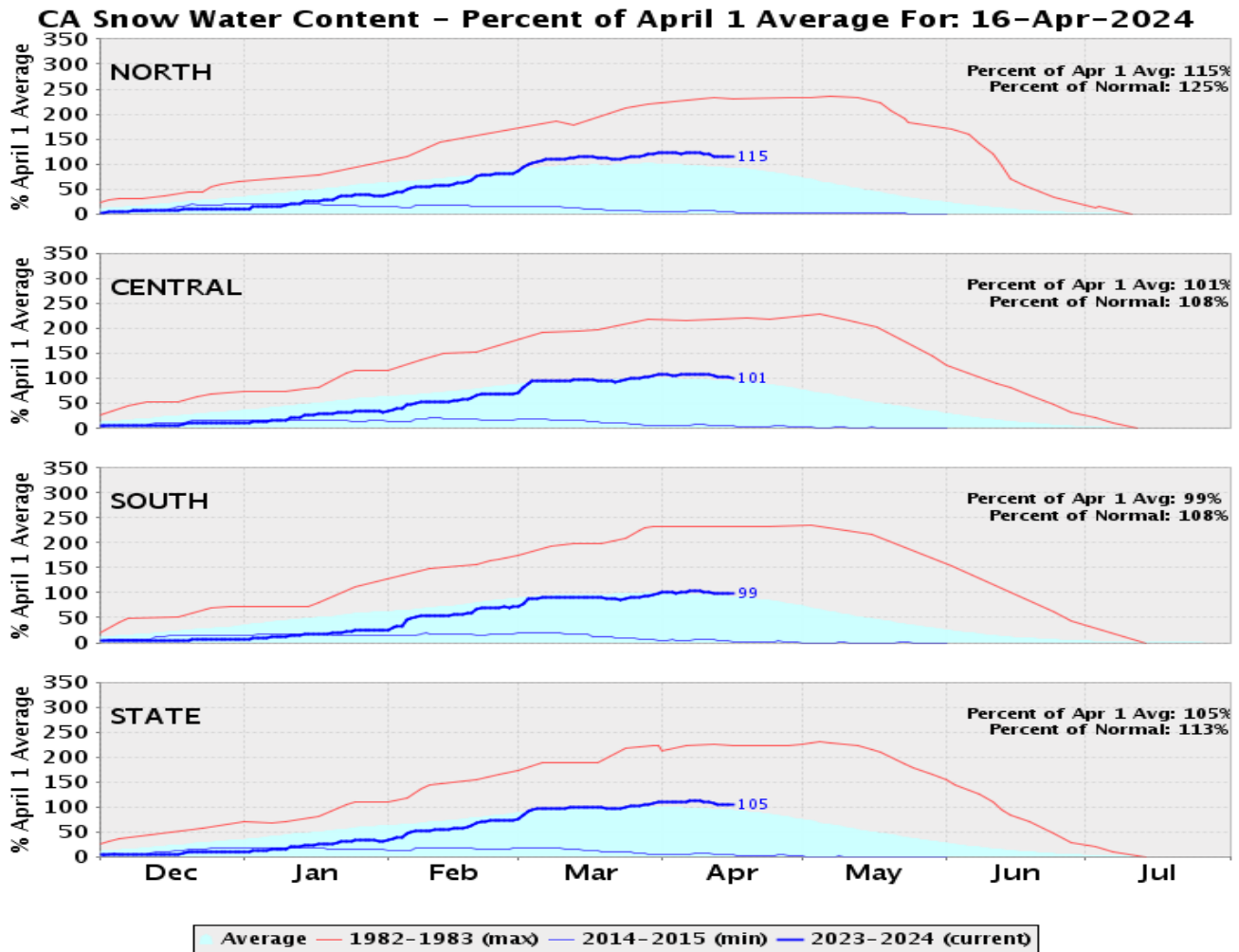
*% Historical Average is based on a daily average that is interpolated from historical monthly averages. The monthly averages are computed using monthly data from water year 1991 to 2020. The monthly averages are updated every 5 years using a sliding 30 year period.

[Reference: California Water Data Exchange](#)



VELES WATER WEEKLY REPORT

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	32.7	-2.1	208	125	115
CENTRAL SIERRA	27	-2.4	242	108	101
SOUTHERN SIERRA	22.1	-1.3	287	108	99
STATEWIDE	27.2	-2.2	260	113	105

*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.

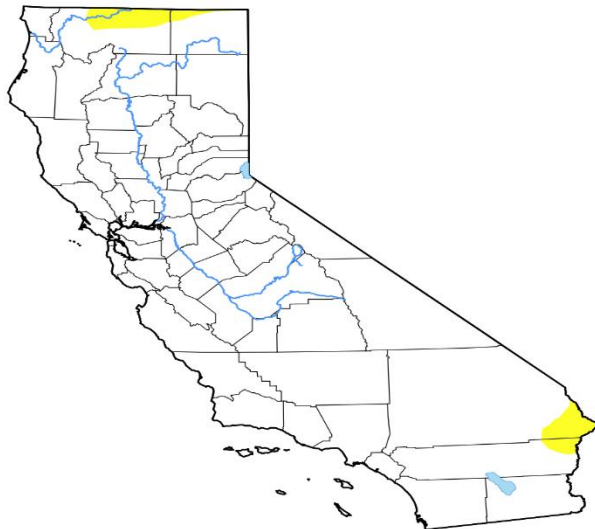
** April 1st is used as the benchmark as it when the snowpack in California is generally deepest. It has been used the benchmark date since 1941 by DWR and can be used to predict spring river flow.



DROUGHT MONITOR

California

[Home](#) / California



Map released: Thurs. April 11, 2024

Data valid: April 9, 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

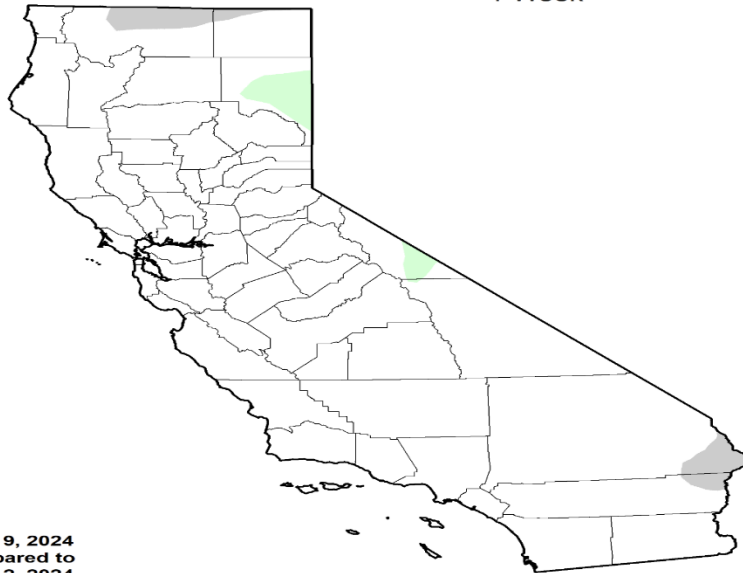
United States and Puerto Rico Author(s):

[Brad Pugh](#), NOAA/CPC

Pacific Islands and Virgin Islands Author(s):

[Anthony Artusa](#), NOAA/NWS/NCEP/CPC

U.S. Drought Monitor Class Change - California 1 Week



April 9, 2024
compared to
April 2, 2024



- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

droughtmonitor.unl.edu

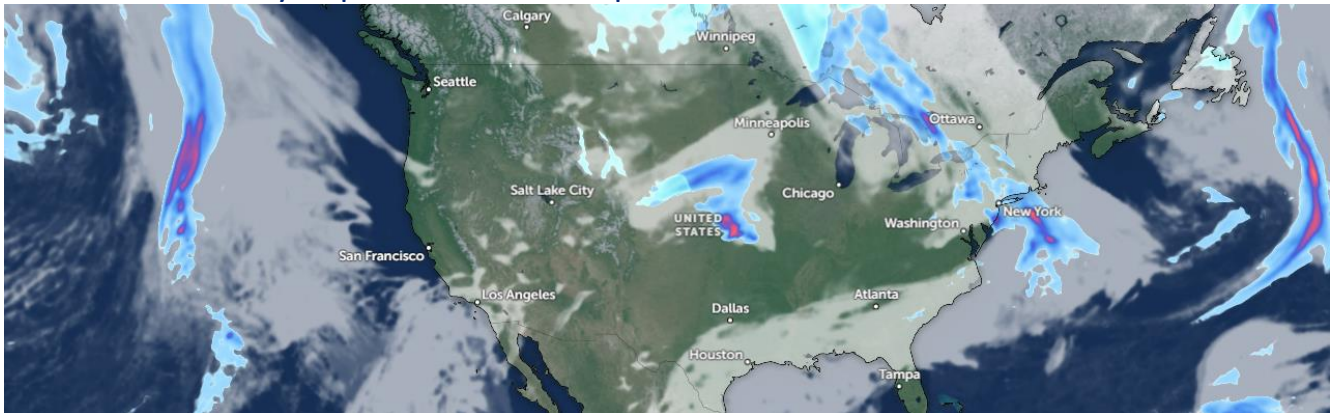
Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	2024-04-09	97.32	2.68	0.00	0.00	0.00	0.00	3
Last Week to Current	2024-04-02	95.46	4.54	0.00	0.00	0.00	0.00	5
3 Months Ago to Current	2024-01-09	96.65	3.35	0.00	0.00	0.00	0.00	3
Start of Calendar Year to Current	2023-12-26	96.65	3.35	0.00	0.00	0.00	0.00	3
Start of Water Year to Current	2023-09-26	94.01	5.99	0.07	0.00	0.00	0.00	6
One Year Ago to Current	2023-04-11	65.67	34.33	8.79	0.00	0.00	0.00	43

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

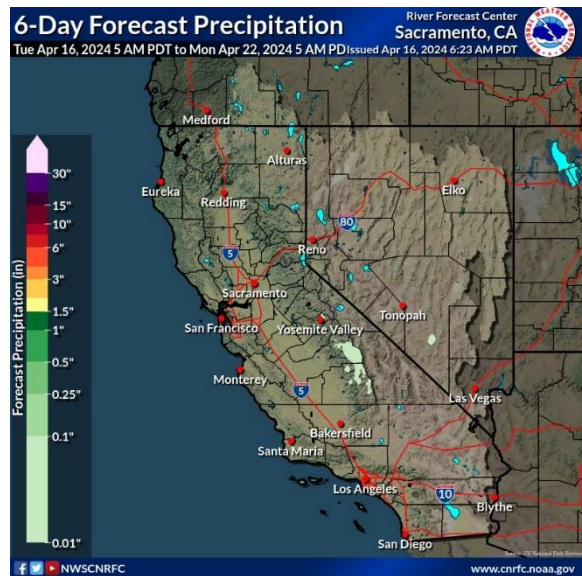
The satellite picture shows a Pacific frontal system offshore which will most probably only affect western Canada and possibly the Seattle region. The rest of the western US is clear with some light moisture flowing inland around LA which is not expected to bring any significant weather. There is a large storm near the Chicago area which will affect the Great Lakes area as well. A line of storms is exiting the US in the east. There is no monsoon activity at present but expect it to start in next few months.



10 Day Outlook

High pressure off the west coast and nudging into the region with northwesterly flow aloft as trough digs down into Pac NW and Nrn Rockies from Canada the next few days. This will bring dry and warm conditions. Temperatures generally near normal to 10 degrees above normal through Thursday. A weak disturbance (GFS stronger than EC) moves through Central/Srn CA and Srn NV on Friday that may bring some cumulus buildups and possibly isolated showers along the Srn Sierra in the afternoon/early evening. Ridge of high pressure shifts over the region over the weekend bringing max temperatures around normal to 15 degrees above normal except up to 10 degrees below along the NW CA coast on Saturday as the tail end of a cold front swinging into B.C./WA may brush by far NW CA coast.

Map Ref: Zoom Earth



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



WESTERN WEATHER DISCUSSION

As a low pressure system shifted inland, widespread precipitation (rain and high-elevation snow) overspread the West from April 3 to 6. Heavy precipitation (more than 1.5 inches, liquid equivalent) along with snow water equivalent (SWE) amounts near average supported a 1-category improvement to western Idaho and northeastern Oregon. Parts of western Montana also had a 1-category improvement due to a wet week and considerations such as SWE and SPIs at various time scales. The current depiction of moderate to severe drought across Idaho and western Montana lines up well with the 6 to 9-month SPI. On April 5 and 6, a major storm developed across the northern Rockies and high Plains with precipitation amounts exceeding 1.5 inches (liquid equivalent) across southern Montana. Based on this heavy precipitation and lack of support from SPIs at various time scales, a 1-category improvement was made to this region. Neutral to positive SPIs at multiple time scales and SWE near to slightly above normal supported the removal of D0 (abnormal dryness) from western Nevada and adjacent areas of California. Farther to the north, low snowpack resulted in a second week of D0 and D1 expansion across north-central and northeastern Washington. Although it was a mostly dry week for the Southwest, a reassessment of SPIs at various time scales led to targeted improvements for parts of New Mexico.

Reference:

Rocky Bilotta, NOAA/NCEI

Ahira Sanchez-Lugo, NOAA/NCEI



WATER NEWS

CALIFORNIA WATER NEWS

Metropolitan Water commits up to \$250 million for previously untapped water sources

The Metropolitan Water District plans to spend up to \$250 million on four non-traditional water projects that, combined, could supply up to 100,000 Southern California households over the next few years.

Wastewater recycling, rainwater reclamation and transforming ocean water into drinking water are some of the technologies that could get money in the coming wave of funding from MWD.

The Los Angeles-based wholesaler, which helps transfer water from Northern California and the Colorado River to 26 retail water districts in the Los Angeles region, has spent about \$700 million on smaller, non-traditional water projects since launching its Local Resources Program in 1990. The amounts announced Monday, April 15, represent some of MWD's biggest investments in water innovation to date.

Though the projects won't be financed directly by MWD (retail water districts and others initially will use MWD's promises to secure their own financing and, later, to pay down their debts) agency officials said the broader goal is to keep supplying affordable water to local residents and businesses even as climate change reduces or eliminates the region's traditional supplies.

"It's been good fortune that we aren't still in a drought. But we need to plan for that reality," said Rebecca Kimitich, a spokeswoman for the district.

While the past two rainy seasons have been unusually wet in Southern California, climate scientists and water planners believe the heavy rains and snowstorms have been part of a boom-bust weather pattern associated with climate change in which rainy years punctuate longer stretches of drought or near-drought conditions. Over the long term, as snow packs shrink and the Colorado River becomes shallower, Southern California is expected to get less water from outside sources.

All four of the projects financed by Metropolitan Water could help produce, or reclaim, more local water. They are:

- A waste and groundwater purification project that, starting in 2028, could replenish existing aquifers and generate enough new water for nearly 60,000 households in the San Fernando Valley. Metropolitan Water said it will spend up to \$139 million on what is known as the Los Angeles Groundwater Replenishment Project. The lead agency is the Los Angeles Department of Water and Power.



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- A wastewater purification system that, starting in 2028, could supply 15,000 households that get water from the Las Virgenes Reservoir. The so-called Pure Water Project is being co-developed by the Las Virgenes Municipal Water District and Las Virgenes-Triunfo, and will include 18 miles of new pipes in parts of Los Angeles and Ventura counties. Metropolitan Water is committed to spending \$42.5 million over the next 29 years.
- Systems that as soon as next year could create enough water for nearly 10,400 Riverside County households by treating contaminated groundwater, protecting existing groundwater resources and preventing future contamination in the San Jacinto Groundwater Basin. The project, known as the Perris North Basin Groundwater Contamination Prevention and Remediation Program, could get up to \$26.4 million from MWD over the next 25 years.
- The Doheny Ocean Desalination Project in Dana Point, which could turn salt water into tap water for nearly 17,000 households in south Orange County starting in 2028. The project is spearheaded by South Coast Water District, and Metropolitan Water has committed nearly \$40 million over the next 15 years.

The money isn't unconditional for any of the projects. Metropolitan Water, which last week set its upcoming yearly budget at about \$2.4 billion, said it will issue money only when any project comes online and delivers water as projected. If projects fall apart or become less productive, Metropolitan Water can spend less, or nothing.

"We want to incentivize worthy projects," Kimitch said. "We believe all of these projects will work out."

Metropolitan Water's innovation investment program has focused previously on groundwater recycling and recovery. To date, MWD has helped finance 116 programs that, collectively, have generated enough water for about 1.5 million households.

Original Article: [LA Daily News by Andre Mouchard](#)

State board puts first groundwater basin on probation

The State Water Resources Control Board on Tuesday voted unanimously to put the Tulare Lake subbasin on probation during a precedent-setting meeting in Sacramento that stretched over nine hours.

"This is a turning point. We are coming to terms with the reality of what this means especially in these areas that are so severely overdrafted," said Laurel Firestone, one of five board members. "We're doing this because we all recognize that we don't have a choice."

The Water Board is the enforcement arm of the Sustainable Groundwater Management Act, which mandates overpumped groundwater basins bring aquifers into balance by 2040.

Under probation, the Water Board will require flow meters to be installed for pumpers who use more than 500 acre feet of groundwater per year. Fees will also be



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implemented to recoup state costs. Those include \$20 per acre foot of extracted water and \$300 annual registration fees per well.

If deficiencies in the subbasin's plan aren't fixed after a year, the Water Board could implement an interim plan, take over management of the subbasin and impose pumping limits.

The Tulare Lake subbasin covers all of Kings County.

Four groundwater sustainability agency (GSA) managers in the Tulare Lake subbasin presented updates from a new groundwater plan that is nearly complete, which they claim addresses the deficiencies. Board members said they were encouraged and optimistic by the updates and acknowledged the work GSA staff have done up to this point.

However, the revised plan was not completed in time for the hearing.

Dorene D'Adamo, vice chair of the Water Board, said she was hopeful that a complete revision of the plan would have been in hand by Tuesday's meeting. Because it wasn't, D'Adamo said she was not comfortable delaying the decision and instead opted for probation.

Advocates, water managers from other subbasins, farmers and public officials commented at the hearing. Many advocates supported the probationary status for Tulare Lake, including nonprofits Community Water Center, Leadership Counsel for Justice and Accountability, Clean Water Action and Union of Concerned Scientists.

Antonio Solorio, speaking on behalf of Westlands Water District, also called for probation saying that Westlands and its neighbors need to work to protect groundwater levels.

Multiple farmers spoke out against probation, claiming the move could devastate small family farms, agricultural communities and local economies.

Brian Medeiros, a first generation farmer, gave an impassioned plea to the board to consider how probation could impact the lives of all residents, including his own family which includes a four-year old son.

"When I ask my son what he wants to be when he grows up, he says he wants to be a farmer just like me," Medeiros said. "Please consider that we need to protect the entirety of our community. I don't want this agency or any other agency to take that dream away from him."

There are three aquifers in the Tulare Lake Subbasin. The top layer, called the A-zone, is a shallow perched section about 100 feet below ground level. The B Zone contains the majority of domestic and agricultural wells, whereas the C-zone sits below a thick layer of Corcoran clay more than 700 feet below the surface. The C-zone is considered the main culprit behind the region's extensive subsidence.



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In the Mid-Kings River GSA, which includes the City of Hanford, pumping caps were established in March, said Dennis Mills, manager of the GSA, at the hearing. Currently, 2 acre feet per acre is allowed to be pumped from the C-zone.

“We are encouraged by the paradigm shift of reduction in pumping from the C-zone,” said Caroline Hackett, water resources engineer at the Water Board.

The Tulare Lake subbasin’s plan to achieve sustainability was rejected twice by the state. Regulators didn’t believe it would solve one of the area’s biggest problems caused by over pumping – subsidence, or land sinking, which has impacted a huge swath of land. State regulators were also concerned the Tulare Lake subbasin plan hadn’t done enough to protect drinking water wells from going dry or being contaminated and that the five groundwater agencies had not properly coordinated amongst themselves.

Several Tulare Lake agencies – and most other subbasins – held out hope the Water Board would employ the “good guy clause.” That clause allows the board to put individual groundwater agencies on probation, while sparing the larger subbasin. But the board decided against allowing any exceptions to probation because the negative impacts in the plan were not adequately described to begin with.

Subsidence is also a major issue in the next region that will come before the board. The Tule subbasin is next door to the Tulare Lake subbasin, covering the southern half of the valley portion of Tulare County.

Farmers have pumped out groundwater so furiously there that a 33-mile section of the vital Friant-Kern Canal has sunk, crimping its carrying capacity by 60 percent. The sinking continues even after a \$300 million repair project, prompting lawsuits and urgent pleas for help from the Water Board.

The Tule subbasin goes before the board Sept. 17.

Four other valley groundwater subbasins will come before the board as well. The Kaweah subbasin in Tulare County, will be called up in November, then the Kern subbasin will go before the board in January 2025. The Chowchilla and Delta-Mendota subbasins will have their cases heard later in 2025.

Original Article: [SJV Water by Lisa McEwen and Jesse Vad](#)

\$18 million investment from Inflation Reduction Act benefits native seed increase projects in the Mojave Desert

With the Department of the Interior’s recent announcement of nearly \$18 million in new investments from the Inflation Reduction Act, BLM California is thrilled to expand upon native seed growth improvement projects.

This historic investment will contribute to Interior’s new National Seed Strategy Keystone Initiative, built to implement the proper infrastructure, tools, research and labor needed to support a strong native seed supply chain. The National Seed Strategy Keystone Initiative outlines goals for ecosystem restoration, biodiversity support, and the reduction of climate change risks. Example projects include expanding Tribal



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greenhouse facilities, assisting local farmers transition from high-water crops to low-water native plant crops and connecting with underserved communities in native seed collection via the Seeds of Success program.

The Victor Valley College Native Seed Production project under the BLM Mojave Desert Native Plant Program in southern California, will benefit from the investment. Started in 2022, the BLM partnership with Victor Valley College is a joint effort to grow native plants, increase native seed output and develop seed harvest protocols for Mojave Desert habitat restoration. The project is forecasted to span five years to meet seed production goals.

Prioritizing outreach and collaboration with the local community, staff on this project will assist local farmers transition from alfalfa farming to less water intensive native plants. The seed increase program supports farmers who are losing water rights, in turn affecting their alfalfa farming, while also contributing to habitat resilience against climate change.

“Students are developing native plant growing techniques to increase seed production,” Judy Perkins, Mojave Desert Ecoregional Native Plant Coordinator for the BLM California State Office said. “Then they will start scaling up seed increase project size to the agricultural field scale.”

BLM California is delighted to be awarded funds from the Inflation Reduction Act for seed strategy projects. These resources will help expand and sustain ecosystem restoration initiatives across the state, thereby improving the health of the habitats they manage.

Original Article: [BLM](#)

California farmers depleted groundwater in this county. Now a state crackdown could rein them in

For the first time in California history, state officials are poised to crack down on overpumping of groundwater in the agricultural heartland.

The State Water Resources Control Board on Tuesday will weigh whether to put Kings County groundwater agencies on probation for failing to rein in growers’ overdrafting of the underground water supply.

Probation — which would levy state fees that could total millions of dollars — is the first step that could allow California regulators to eventually take over management of the region’s groundwater.

State officials have issued multiple warnings to Kings County growers, irrigation districts and local officials that their groundwater plan has serious deficiencies and won’t stem the region’s dried-up wells, water contamination and sinking land, all caused by overpumping.



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Located in the southern end of the San Joaquin Valley, the Tulare Lake underground basin is the main source of drinking and irrigation water for 146,000 residents and hundreds of square miles of farms. Agriculture is king here — producing nearly \$2.6 billion in dairy, pistachios, cotton, tomatoes and other crops and livestock in 2022.

Powerful agricultural interests shape the region’s groundwater policy, led by tomato-and-cotton giant J.G. Boswell Co. and Sandridge Partners, controlled by Bay Area developer John Vidovich. The two massive landowners have representatives on at least three boards managing vast swaths of the groundwater basin.

If the state puts the local water agencies on probation, it’ll be the first time that California imposes penalties under the landmark Sustainable Groundwater Management Act, which was enacted 10 years ago during a prolonged, severe drought when growers ramped up pumping and thousands of household wells in the San Joaquin Valley went dry.

The law gave local groundwater agencies in critically overdrafted basins until 2040 to reach sustainable levels of pumping. In the meantime, the local agencies must have plans in place to halt overuse.

Tuesday’s decision could foreshadow how the state will handle five other overdrafted San Joaquin Valley basins that also may face probation. In all, 21 basins in California are considered critically overdrafted.

“This is the first time you really see the state play such an explicit role in groundwater management,” said Tien Tran, a policy advocate with the Community Water Center.

If the state doesn’t order improvements to protect household and community supplies, disadvantaged communities in the San Joaquin Valley will suffer, said Jasmine Rivera, a community development specialist with Self-Help Enterprises, which provides emergency water to households.

“The stakes are extremely high,” Rivera said. “And the risk is extremely high.”

Small farmers in Kings County worry that the state’s crackdown on groundwater pumping and steep fees will force them out of business. Growers still reeling from the 2023 floods that swamped their homes, orchards and crops would be forced to reckon with the decades-long decline of the water that is the lifeblood of the region’s biggest industry.

“In Kings County, there is no other economy,” said Dusty Ference, executive director of the Kings County Farm Bureau. “We do not have a tourism industry. We do not have an oil and gas industry. We do not have a manufacturing industry. Everything in this county relies on a successful agriculture industry.”

Since the groundwater act was enacted 10 years ago, fruit and nut acreage has grown in Kings County, although field crop acreage has shrunk. Groundwater extraction has not decreased — varying from year to year, but roughly the same amounts were pumped in 2022 as in 2015. New irrigation wells have been drilled. Communities still grapple with



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contaminants worsened by pumping. And, although well outages have slowed after flooding last year, some household wells are still going dry.

State officials warn that the local agencies' plan could cause about 700 additional household wells and a dozen community wells to dry up. Contamination also would increase as the water table drops, wells reach deeper into layers containing more toxic substances and overpumping squeezes contaminants like arsenic from the clay.

Land would also continue to sink, endangering canals, major aqueducts and flood control levees. Some land in the western side of the basin, near Hanford and Corcoran, subsided about six feet between 2015 and 2023 alone.

Kings County Supervisor Doug Verboon, a fourth generation corn and walnut farmer, said he's been warning for years that the groundwater law could upend life in the county, especially for small farmers.

Now, with local agencies scrambling, "It seems like it's a little too much, too late," Verboon said. "We're fighting against ourselves at this point."

Even after months of research and debate, the agency boards and managers still hadn't reached an agreement on the final plan with just days to go before Tuesday's hearing, said Kings County Supervisor Joe Neves, who chairs one of the groundwater agencies. Now, he said, he fears "the state water board has probation as the only recourse."

Probation would begin a period of extra state fees and extraction reports from growers while local agencies address the state's concerns. If the local efforts last longer than a year and continue to fail, the state can initiate the process of taking control of the groundwater.

The state's pumping fees of \$20 per acre foot alone could reach almost \$10 million a year, according to a CalMatters analysis based on average groundwater use reported between 2015 and 2022. Growers and communities pumped almost half a million acre feet a year on average, enough to serve about 1.5 million households.

Growers also would be required to pay an additional fee of \$300 per well every year.

The new state fees would come at a time of higher interest rates and plummeting prices for once-lucrative commodities like almonds and walnuts.

"Everybody thought that we had time to adapt," said Ference of the Kings County Farm Bureau. "The law is written that we have to achieve sustainability by 2040, not by 2024." Ference said he worries about the effects on the local economy. "If we drastically cut groundwater pumping this year to next, everybody here suffers. Kings County becomes a ghost town," he said.

Original Article: [CalMatters by Rachel Becker](#)



US WATER NEWS

Dozens of Texas water systems exceed new federal limits on “forever chemicals”

In Texas, 49 public water utility systems have reported surpassing the U.S. Environmental Protection Agency’s first-ever limits for five “forever chemicals” in drinking water, according to data submitted to the federal agency.

Experts say there are likely more since not all water systems have submitted their data. PFAS, or perfluoroalkyl and polyfluoroalkyl substances, are widespread and long lasting in the environment. They are called “forever chemicals” because they don't break down and can persist in water and soil, and even human blood indefinitely. The chemicals have been used since the 1940s to repel oil and water and resist heat. They have been included in thousands of household products from nonstick cookware to industrial products like firefighting foam.

There are more than 12,000 types of individual forever chemicals, but new EPA standards announced last week set new limits for five of them: PFOA and PFOS have a limit of 4 parts per trillion while PFHxS, PFNA, and HFPO-DA have a limit of 10 parts per trillion.

One part per trillion is equivalent to a single drop of water in 20 Olympic-sized swimming pools.

The new standards will require water utilities to meet them within five years. The EPA estimates that the new limits, which are legally enforceable, will reduce exposure for 100 million people nationwide and help prevent thousands of deaths and illnesses, including from cancer.

One study found the chemicals in the blood of nearly 97% of all Americans. Exposure to PFAS has been linked to cancer, causing low birth rate and birth defects, damage to the liver and immune system, and other serious health problems. In 2022, the EPA issued health advisories that said the chemicals were much more hazardous to human health than scientists originally thought.

“Drinking water contaminated with PFAS has plagued communities across this country for too long,” EPA Administrator Michael Regan said in a press release last week. “That is why President Biden has made tackling PFAS a top priority, investing historic resources to address these harmful chemicals and protect communities nationwide.”

EPA estimates that between about 6% and 10% of the 66,000 public drinking water systems subject to this rule may have to take action to reduce PFAS to meet these new standards.

The new standards will require all public water utility systems to submit PFAS data to the EPA. So far, only about 24% of them have submitted this data nationally. EPA expects all data to be submitted by 2026. In Texas, more than 420 public water systems have



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submitted PFAS results to the federal agency and 113 of them detected some level of PFAS in the water.

Of those, nearly 50 public water systems reported at least one exceedance of any of the five chemicals that the EPA targeted. Some of the cities on that list include Abilene, Arlington, Baytown, Deer Park, Fort Worth, Grapevine, and Dallas (the full list can be found at the end of this story).

“These are very harmful chemicals. It's even more important for [water systems] to address this in the drinking water to minimize the exposure of people in Texas,” said Maria Doa, a senior director of chemicals policy for the environmental nonprofit Environmental Defense Fund, after looking at Texas’ PFAS results.

Original Article: [Texas Tribune by Alejandra Martinez](#)

Russia-linked hacking group suspected of carrying out cyberattack on Texas water facility, cybersecurity firm says

A hacking group with ties to the Russian government is suspected of carrying out a cyberattack in January that caused a tank at a Texas water facility to overflow, experts from US cybersecurity firm Mandiant said Wednesday.

The hack in the small town of Muleshoe, in north Texas, coincided with at least two other towns in north Texas taking precautionary defensive measures after detecting suspicious cyber activity on their networks, town officials told CNN. The FBI has been investigating the hacking activity, one of the officials said.

The attack was a rare example of hackers using access to sensitive industrial equipment to disrupt regular operations at a US water facility, following a separate cyberattack last November on a Pennsylvania water plant that US officials blamed on Iran.

The cyber incidents in Texas also help explain a rare public appeal that US national security adviser Jake Sullivan made last month to state officials and water authorities to shore up their cyber defenses. Cyberattacks are hitting water and wastewater systems “throughout the United States” and state governments and water facilities must improve their defenses against the threat, Sullivan said in a joint letter with the Environmental Protection Agency chief to state officials.

US officials have been concerned that many of the country’s 150,000 public water systems have struggled to find the cash and personnel to deal with persistent hacking threats from criminal and state actors.

The Texas hacking incidents gained little national attention when they occurred as questions lingered about who was behind the activity. But on Wednesday, Mandiant publicly linked the channel on Telegram, a social media platform, where hackers claimed responsibility for the Muleshoe attack with previous hacking activity carried out by a notorious unit of Russia’s GRU military intelligence agency.



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It was unclear, Mandiant analysts said, whether the GRU was behind the cyberattack on Muleshoe's water facility or if other Russian-speaking hackers using the same persona were claiming responsibility for the hack.

The string of incidents did not affect drinking water in the towns. But if it is confirmed that the GRU or one of its proxies was involved, this would mark an escalation in targeting US critical infrastructure for a Russian group often known for focusing on Ukraine.

In Muleshoe, a town of about 5,000 people, the hackers broke into a remote login system for industrial software that allows operators to interact with a water tank, city manager Ramon Sanchez told CNN. The water tank overflowed for about 30 to 45 minutes before Muleshoe officials took the hacked industrial machine offline and switched to manual operations, Sanchez said in an email. Muleshoe officials replaced the hacked software system and took other steps to secure the network, Sanchez said.

Original Article: [CNN by Sean Lyngaas](#)

Damage found inside Glen Canyon Dam increases water risks on the Colorado River

Federal officials have discovered damage inside Glen Canyon Dam that could force limits on how much Colorado River water is released at low reservoir levels, raising risks the Southwest could face shortages that were previously unforeseen.

The damage was recently detected in four 8-foot-wide steel tubes — called the river outlet works — that allow water to pass through the dam in northern Arizona when Lake Powell reaches low levels. Dam managers spotted deterioration in the tubes after conducting an exercise last year that sent large flows from the dam into the Grand Canyon.

To reduce risks of additional damage, federal Bureau of Reclamation officials have determined that flows should be reduced in the event of low reservoir levels. The infrastructure problems in one of the country's largest dams have created new complications as water managers representing seven Western states negotiate long-term plans for reducing water use to address the river's chronic supply-demand gap and adapt to the effects of climate change.

"Because of the dam's design, there are real structural risks under low elevations that could potentially leave stranded as much water in Lake Powell as California's largest reservoir, Lake Shasta," said JB Hamby, California's Colorado River commissioner.

Such a scenario could lead to significant unexpected cuts in water deliveries to California, Nevada, Arizona and Mexico.

"There are a couple of ways to deal with this, absent an infrastructure fix," Hamby said in an email. "One, reduce releases to Arizona, California, Nevada, and Mexico."

But he said that could be a violation of the 1922 Colorado River Compact, which guarantees that the states in the river's lower basin receive a certain quantity of water.



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A second option, Hamby said, would affect the four states in the river's upper basin: Colorado, Wyoming, Utah and New Mexico. He said that could include reducing water use in the upper basin states or releasing water from upstream reservoirs.

"An engineering solution is preferable to both of those options," Hamby said.

Efforts to analyze potential fixes appear to be in the early stages.

The problems came to light at a meeting in Arizona last month. Brenda Burman, general manager of the Central Arizona Project, presented a diagram showing the dam's eight large tubes, called penstocks, that water normally passes through, as well as the smaller outlet pipes that enable water releases at low reservoir levels.

"They have some unknown issues about how these river outlet works would perform. That's very difficult new information to hear," Burman said.

She said officials found sediment, "thinning in the pipes" and "cavitation." Cavitation refers to the formation and collapse of air bubbles in flowing water and is known to damage propellers, pumps and other structures. Under certain flow conditions, cavitation can pit and tear into metal, damaging the infrastructure.

Federal officials are analyzing how to address the problems, Burman said, adding that the Bureau of Reclamation is "known for being able to come up with engineering solutions to engineering problems."

"We very much expect to be working with Reclamation in the coming months to investigate exactly what can be done," she said.

The problems with a crucial part of the dam's water-delivery system, which were first reported by the Arizona Daily Star, have raised new questions about what sort of fix would be most effective, how much it would cost, and how long repairs could take.

The Colorado River supplies water used by cities, farms and tribal nations across seven states and northern Mexico. The river has long been overallocated, and its average flow has declined dramatically since 2000. Research has shown that global warming is intensifying drought years and contributing significantly to the reduced flows.

The water level in Lake Powell, the nation's second-largest reservoir, now sits at 33% of capacity — its surface about 68 feet above the lowest level at which the dam can continue generating electricity. The snowpack in the upper Colorado River Basin this year has been above average, and the snowmelt will give reservoir levels a boost for now.

But long-term projections show that substantial reductions in water use will be necessary in the coming years to reduce risks of reservoirs reaching critically low levels. The infrastructure problems at Glen Canyon Dam add another layer of complications and uncertainty.

Original Article: [The LA Times by Ian James](#)



Texas seeks public input for \$1 billion water fund

Texans have two more weeks to tell the state how they want it to spend the \$1 billion water infrastructure fund approved by voters in November.

Why it matters: The Texas Water Development Board is tasked with determining how to best distribute the money to address the state's water supply issues as climate change and a growing population increase pressure on our water resources.

Catch up quick: Proposition 6 earmarked \$1 billion to create the Texas Water Fund for water loss and conservation projects, with a focus on rural communities.

As part of the proposition, at least \$250 million must be allocated to projects that create new water sources.

The latest: The board has been hosting open meetings hearing public testimony about how to distribute the funding — including in Lubbock last week.

Kathleen Ligon, a board staff member, tells Axios they've also solicited online survey feedback focused on three areas: financial assistance for infrastructure projects, new water supply and a public awareness program.

She said all have garnered a lot of interest, particularly the public awareness program.

What they're saying: "The first place we should look to invest is water we already have," says Jennifer Walker, director of the National Wildlife Federation's Texas Coast & Water Program.

"If we already have this water supply, and we're already treating it and have all the chemicals and the personnel and staff and the energy to move water but we're losing some of it along the way, that is, I would think, our first place to look for water supplies."

Threat level: Texas water systems are losing at least 572,000 acre-feet of water per year because of the deteriorating infrastructure or breaks caused by shifting ground from droughts.

That's enough to meet the total 2020 annual municipal needs of the cities of Austin, Fort Worth, El Paso, Laredo and Lubbock, per a 2022 study from the Texas Living Waters Project.

Between the lines: "As we continue to extract more water from rivers, from reservoirs, from groundwater, we impact our future water availability for groundwaters, and then also we impact the downstream environment," Walker says.

"We want to make sure that we have enough water leftover to support fish and wildlife habitat."

What we're watching: While \$1 billion is the state's largest investment in water infrastructure since 2013, proponents say it still won't meet the enormous demand.

Original Article: [AXIOS by Shafaq Patel](#)



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‘Water is more valuable than oil’: the corporation cashing in on America’s drought

One of the biggest battles over Colorado River water is being staged in one of the west’s smallest rural enclaves.

Tucked into the bends of the lower Colorado River, Cibola, Arizona, is a community of about 200 people. Maybe 300, if you count the weekenders who come to boat and hunt. Dusty shrublands run into sleepy residential streets, which run into neat fields of cotton and alfalfa.

Nearly a decade ago, Greenstone Resource Partners LLC, a private company backed by global investors, bought almost 500 acres of agricultural land here in Cibola. In a first-of-its-kind deal, the company recently sold the water rights tied to the land to the town of Queen Creek, a suburb of Phoenix, for a \$14m gross profit. 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.

A Guardian investigation into the unprecedented water transfer, and how it took shape, reveals that Greenstone strategically purchased land and influence to advance the deal. The company was able to do so by exploiting the arcane water policies governing the Colorado River.

Experts expect that such transfers will become more common as thirsty towns across the west seek increasingly scarce water. The climate crisis and chronic overuse have sapped the Colorado River watershed, leaving cities and farmers alike to contend with shortages. Amid a deepening drought and declines in the river’s reservoirs, Greenstone and firms like it have been discreetly acquiring thousands of acres of farmland.

Here we are in the middle of a drought trying to preserve the Colorado River, and we’re allowing water to be transferred off

Regina Cobb, former state representative

As US states negotiate how they will divide up the river’s dwindling supplies, 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 purchases have alarmed local residents, who worry that water speculators scavenging agricultural land for valuable water rights will leave rural communities like Cibola in the dust.

“Here we are in the middle of a drought and trying to preserve the Colorado River, and we’re allowing water to be transferred off of the river,” said Regina Cobb, a former Republican state representative who has tried to limit transfers. “And in the process, we’re picking winners and losers.”

In February, a federal judge ruled that the Cibola-Queen Creek transfer was done without proper environmental review, ordering the federal Bureau of Reclamation to complete a more thorough evaluation. The US Department of Justice, which is representing the bureau in the legal proceeding, declined to comment on whether the bureau would be appealing the decision.



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Meanwhile, Greenstone – which appears to be the first water brokerage firm to sell rights to the Colorado River – could help chart the course of how the resource can be bought and sold in the west.

The farm that was really an investment firm

Greenstone first arrived in Cibola a decade ago – though few here knew anything of the company at the time. Through a subsidiary called GSC Farm LLC, the company purchased 485 acres of land in the Cibola valley in 2013 and 2014, for about \$9.8m. Hardly anyone in town took notice.

“Why would we?” said Holly Irwin, a supervisor for La Paz county, which encompasses Cibola.

Initially, Greenstone leased that land back to farmers, who planted fields of alfalfa and rows of puffball cotton.

Then, in 2018, the company sold the water tied to that farmland to Queen Creek, a fast-growing sprawl of gated communities on the outskirts of Arizona’s capital. The city’s government agreed to pay the company \$24m for the annual entitlement to 2,033 acre-feet of Colorado River water.

In July of last year, amid continuing legal challenges and national scrutiny, that water was finally diverted. The alfalfa and cotton fields were fallowed – reduced to dry brush and cracked earth.

Many in town were blindsided. “We were all just like: what the heck?” Irwin recalled.

GSC Farm, she realized, wasn’t really a farm at all – it was part of a water investment firm that had brokered water transfer deals all across the south-west.

GSC Farm is one of at least 25 subsidiaries and affiliates of Greenstone, registered in Arizona and other states. Business registration records, deeds, loan documents and tax records show that these companies share the same executives. To local residents, including elected officials such as Irwin, it was initially unclear that the business – which had been acquiring thousands of acres of farmland not only in Cibola but across Arizona – went by so many names.

Greenstone’s executives and lawyers did not respond to the Guardian’s questions about the company’s corporate structure, its business model, and how it initiated the Queen Creek deal.

Public records revealed that Greenstone’s financial backers include the global investment firm MassMutual and its subsidiary Barings, as well as public pension funds. At least one of its acquisitions appears to be financed by Rabo AgriFinance, a subsidiary of the Dutch multinational banking and financial services company Rabobank.

On its website, Greenstone describes itself as “a water company” and as “a developer and owner of reliable, sustainable water supplies”. Its CEO, Mike Schlehber, previously worked for Vidler Water Company – another firm that essentially brokers water supply – as well as Summit Global Management, a company that invests in water suppliers and water rights. Greenstone’s managing director and vice-president, Mike Malano – a



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former realtor based in Phoenix who remains “active in the Arizona development community”, per his company bio – got himself elected to the board of the Cibola valley irrigation and drainage district, a quasi-governmental organization that oversees the distribution of water for agriculture in the region.

Irwin was horrified. She felt that a company with ties to big banks and real estate developers, posing as a farm, had infiltrated her small town and sold off its most precious resource.

The deal won't have an immediate impact on Cibola's residents. It doesn't affect the municipal water supply. But she worries that the transfer will be the first of many. And if more and more farms are allowed to feed water to cities, what will become of rural towns along the river?

“It'll be like Owens Valley,” she said, referring to the water grab that inspired the movie Chinatown. In the early 20th century, agents working for the city of Los Angeles, posing as farmers or ranchers, bought up land in the valley and diverted its water to sustain their metropolis, leaving behind a dustbowl.

By allowing the Greenstone deal to go through, “I'm afraid we've opened Pandora's box,” she said.

Original Article: [The Guardian by Maanvi Singh](#)

Water leaders proposing possible changes to assured water supply rules

In June of 2023, Governor Katie Hobbs announced that she was placing a moratorium on building additional subdivisions in Valley communities that relied solely on one source of water, groundwater in this case, saying that they could not prove they had a 100-year water supply.

However, a plan is in the works that the governor's Water Policy Council endorses, giving these communities the chance to keep building.

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"What the governor's Water Policy Council recommended is to find a way to get more water providers designated as having an assured water supply," said Kathleen Ferris, who serves on the council.

Late last year, the council and the Arizona Department of Water Resources were given the task of finding a solution.

A proposal, known as the Alternative Path to Designation of Assured Water Supply or ADAWS, states that communities can acquire new water supplies other than groundwater from outside the Phoenix Metro and use at least 30% of those other supplies.

The proposal is different from the Certificate of Assured Water Supply, which Ferris said is not sustainable.



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"Those certificates are not reviewable by the Arizona Department of Water Resources. They're kind of in effect forever once one lot is sold. But a designation is reviewable every 15 years," Ferris stated.

This can give communities like Queen Creek and Buckeye the chance to continue growing. These communities were affected the most in the Valley by Governor Hobbs' moratorium.

The City of Buckeye told ABC15 that they "look forward to continuing the collaboration...to chart both a path to designation...and solutions to restarting development that align with the needs of the city."

In an email to ABC15, the Town of Queen Creek stated that it's "reviewing the draft ADAWS rules to determine if they will be a good fit for the Town's needs and goals."

The Arizona Department of Water Resources will hold an informal meeting with the public on Monday, April 22, and it will be held virtually and in person.

Original Article: [abc15 by Jorge Torres](#)

South Texas border officials request info on 'missing water'

Hidalgo County Judge Richard Cortez has asked federal and state officials to account for two South Texas reservoirs, which he believes are "missing water."

Cortez on Friday announced that he has sent letters to the U.S. International Boundary and Water Commission — which oversees the Rio Grande — as well as the Texas Commission on Environmental Quality, which oversees water rights management via watermasters. He wants to get quantitative data on water that feeds into Amistad and Falcon reservoirs.

This comes a few weeks after a sugar mill — the only one in Texas — shut down due to a water shortage from Mexico's failure to pay its share of water owed to the United States under an international treaty.

But Cortez says Mexico might not be entirely to blame. According to his inquiries, there could be other leaks in what should be orderly flows of water from north and south of the border,

"We started our analysis by looking at the water that Mexico owes us, but we also realized that mathematically Mexico's non-compliance with the Treaty of 1944 doesn't account for all our missing water," Cortez said in a statement. "So now we need to see where the rest of our water is and why it isn't reaching us."

Mexico has paid barely one year's worth of water owed to the United States during the current five-year water cycle, under an international water treaty. The cycle ends in October 2025 and Mexico is not expected to make its full payments in time.

Cortez last week declared a state of disaster due to the drought and lack of water for this growing border region.

He says his staff is working to come up with "a comprehensive plan of action with water suppliers in our community," and that means collecting all the data possible on inflows



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“to the mainstem of the Rio Grande below Fort Quitman” from Mexican and American tributaries, according to a letter he sent April 10 to IBWC U.S. Commissioner Maria-Elena Giner.

Fort Quitman is about 60 miles southeast of El Paso and marks the division line between the upper and lower Rio Grande.

“I am deeply concerned about water availability for my community and Mexico’s continued non-adherence to the terms of the 1944 Water Treaty,” Cortez wrote. “In order to appropriately chart our course of action, we must base our decisions on the best available information.”

Cortez asked Giner to share “any opinion you or your agency may have formed as to inflow trends to the mainstem of the Rio Grande below Fort Quitman from United States tributaries, and any opinion as to the cause of such trend.”

He sent a similar letter to TCEQ Chairman Kim Nygren, in Austin.

The 1944 treaty lays out how both countries divide ownership of water that reaches the Rio Grande from Fort Quitman to the Gulf. Most comes from six tributaries that are completely located in Mexico: the Rio Conchos; Arroyo de las Vacas; Rio San Diego; Rio San Rodrigo; Rio Escondido and Rio Salado, according to IBWC.

Two-thirds of the water from the tributaries belong to Mexico, but one-third is to go to the United States, according to the treaty.

On Monday, Falcon Reservoir was at 266 feet — well below the 300-foot water conservation levels. Amistad Reservoir was at the lowest levels it’s been since 1971, according to IBWC data on the agency’s website.

A 51-year-old sugar mill shut down earlier this year because of not enough water for growers to produce the water-thirsty sugar cane plants. Over 500 people lost their jobs. Texas’ lone sugar mill closes, underscoring Mexico’s water debt to US

Now municipalities in the Rio Grande Valley are worried whether this will affect citrus growers and potentially home customers.

Last week, Secretary of State Antony Blinken met with South Texas lawmakers regarding Mexico’s lack of water payments.

Original Article: [Valley Central by Sandra Sanchez/ Boarder Report](#)



GLOBAL WATER NEWS

Can India withstand a water crisis?

Co-released by the DCM Shriram Foundation and Sattva Knowledge Institute, this report calls for action to tackle the critical water crisis affecting the nation's farming sector.

The report highlights that agriculture consumes a whopping 90% of India's water resources, with irrigation alone using up 84% of available water.

Balakrishnan emphasises the seriousness of the situation, noting that despite being home to 17% of the world's population, India has only 4% of the world's water reserves. With about 73% of the country already experiencing some form of water stress, the water crisis poses a significant challenge. He stresses the report's focus on addressing groundwater depletion, a critical issue worsened by agriculture's excessive water use.

The report identifies key crops like cotton, sugarcane, and rice as major water consumers. Balakrishnan underscores the need for targeted solutions to reduce the impact of these water-intensive crops while safeguarding farmers' livelihoods.

One of the report's main recommendations is to establish an engine for localised agricultural ecosystems. Balakrishnan explains that this engine would offer tailored solutions based on regional contexts, enabling stakeholders to make well-informed decisions.

The report also proposes creating a Water Vulnerability Index to guide decision-making processes, providing vital data for policymakers and businesses.

Balakrishnan also highlights the importance of building a network of stakeholders to drive collective action. By bringing together state governments, industry players, and civil society organisations, this network can facilitate concerted efforts to address the water crisis at both local and national levels.

In terms of practical solutions, Balakrishnan emphasises promoting on-farm conservation techniques. These include measures like drip irrigation and alternate wetting and drying, which can significantly reduce water usage while maintaining agricultural productivity.

Furthermore, Balakrishnan addresses the issue of food waste, noting its significant contribution to water inefficiencies in agriculture. By tackling food waste through improved storage and distribution systems, the report aims to maximize the efficiency of water usage throughout the food supply chain.

Original Article: [The Hindu Business Online by Subramani Ra Mancomburenil S Varghese Siddharth Mathew Cherian](#)



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Hedge Funds Including Millennium Are Shorting UK Water Companies

Hedge funds including Millennium Management and Arrowstreet Capital are shorting the assets of UK water companies after a crisis at Thames Water spotlighted high debt levels across the industry.

Millennium has disclosed a short position on United Utilities Group Plc, which provides water and wastewater services in the north west of England. ArrowStreet has a short position on Pennon Group Plc, which owns three water utilities in the south west of England.

Original Article: [Bloomberg by Laura Benitez, Abhinav Ramnarayan, and Nishant Kumar](#)

Water theft laws and penalties in the Murray-Darling Basin are a dog's breakfast. Here's how we can fix them

Water is one of Australia's most valuable commodities. Rights to take water from our nation's largest river system, the Murray-Darling Basin, are worth almost A\$100 billion. These rights can be bought and sold or leased, with trade exceeding A\$2 billion a year. But water is also being stolen (no-one knows how much) and the thieves usually get away with it.

The federal Labor government came to power promising to crack down on water theft in the Murray-Darling Basin. The Productivity Commission has also expressed concerns about a lack of compliance and enforcement.

The Inspector General of Water Compliance, Troy Grant, has also described existing powers to deter theft as ineffective, and called for urgent action to address inconsistencies in the various state laws that penalise theft from the Murray-Darling Basin. That was almost a year ago.

In our new research, we identified the many relevant laws operating in the basin. We examined these laws and found maximum penalties range wildly. It is a dog's breakfast. Surely we can do better.

How did we get into this mess?

The mishmash of water theft laws and penalties across the basin is unfortunate but not surprising.

Water in the Murray-Darling Basin is managed under a joint agreement between the federal government, the basin's four states (Queensland, New South Wales, Victoria and South Australia) and the Australian Capital Territory.

This agreement could be dissolved at any time, should any one state or territory decide to quit.

Murray-Darling Basin compliance is now managed by the Office of the Inspector General of Water Compliance, an independent group of public servants, typically former police officers.



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As Inspector General, Grant has been given powers to reduce water theft, uphold compliance with Murray-Darling Basin rules, and restore confidence among those living and working in the basin.

But he was forced to drop 62 cases in February 2023 due to poor state legislative support, inconsistent approaches to water theft, and allowances for some irrigators to balance their accounts in arrears. Basically, Grant stated you had to be a moron to be caught.

Dropped cases lead to questions about water values, continued supply reliability, the extent of environmental harm, and the future security of water rights.

Drought heightens concern about theft

It's almost 15 years since the most recent review of water theft legislation across state and federal boundaries, which highlighted clear inconsistencies in penalties and approaches to cases.

It's also nearly ten years since the ABC Four Corners report into large-scale water theft, illustrating the dangers of environmental water harms and wanton disregard by some users for the rights of others.

In more recent droughts, such as the "Tinderbox Drought" of 2017–19, irrigators were more concerned about speculation and hoarding than theft.

But if the basin suffers another serious drought, as predicted by many researchers, it is likely theft will become a top concern for all involved, particularly regulators at state and federal levels.

What's more, if predictions of climate impacts to water supply are right, available water will dramatically decline in the Murray-Darling Basin, possibly motivating more theft.

We tested this by combining rainfall and runoff data from the Bureau of Meteorology with climate projections from the CSIRO Climate Futures Model and the Garnaut Climate Change Review, to generate a model of future water flows into the southern Murray-Darling Basin up to 2100.

Our research shows we're on track for a water runoff catastrophe by around 2060, and the eventual collapse of the river's systems by around 2080. Less rain and higher evaporation rates means less water will runoff the land into streams, rivers and storages. Sobering stuff.

Original Article: [The Conversation by Adam James Loch, David Adamson, Mark Giancaspro and Michael Croft](#)

Murray-Darling stakeholders to scrutinise basin plan

The Murray-Darling Basin Plan will again come into focus this week as competing stakeholders meet to scrutinise how the program is working.

Scientists, environmentalists, irrigators, community and government representatives will meet in Sydney on Tuesday and Wednesday to discuss the health of Australia's largest river system.



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"It's important to talk ... progress starts with dialogue, we need to understand different perspectives," Andrew McConville, who heads up the Murray-Darling Basin Authority, said.

"We do need to talk as part of the journey to get a basin plan that's fit for the future."

The federal government in December introduced the Restoring our Rivers legislation to set out how water is shared along the river system after it was recognised the decade-old plan was failing and too much water was being extracted.

The plan allows for more voluntary water buybacks and water-saving infrastructure projects and is designed to secure a healthy, sustainable river, but it's fiercely opposed by some farmers and regional communities.

"The basin is a very broad church," Mr McConville told AAP.

"To give the basin its best opportunity at long-term health, we want to see the implementation of the basin plan in full."

More than 100 senior leaders are expected to attend the summit, which will look at both how the plan has worked in the past as well as into the future.

The authority is due to review the basin plan in 2026.

Federal Environment Minister Tanya Plibersek last week welcomed Victoria's move to recognise the Restoring our Rivers legislation, which she said signalled a commitment to deliver the plan in full.

However, Victoria has been firmly opposed to any water buybacks under the plan.

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"Our position on buybacks has not changed and we do not support any decision under the basin plan that harms communities, the environment or puts farmers at risk," Water Minister Harriet Shing told AAP.

The communication between the two Labor governments is still a step forward, according to Jamie Pittock, of the Wentworth Group of Concerned Scientists, who has studied the basin for decades.

"The fact that the Commonwealth and Victorian government's have signalled that they're now talking again about implementation of the basin plan, that's good," the ANU professor said.

The two-day summit is also hearing from NSW farmers opposed to water buybacks.

"There are smarter solutions for the basin than water buybacks," said beef and dairy farmer Malcolm Holm, who is attending the summit.

"The MDBA summit could be the first step towards exploring the options for smarter water work that doesn't put a handbrake on production for farmers, and provides for stronger communities, and a better environment."

Original Article: [The North West Star by Liv Casben](#)



Federal Government commits \$17m to improve SA's lower Murray wetlands

A plan to improve the shorebird and wetlands habitat across South Australia's Coorong, Lower Lakes, Murray Mouth and South-East landscape has received a \$17 million funding boost.

Located at the mouth of the Murray River, the region has an internationally recognised wetland that supports a variety of plants and animals, including the endangered Australasian bittern and the vulnerable sharp-tailed sandpiper.

The commitment from the Federal Government and Australian Greens will see current habitat restoration work receive a significant boost.

The funding will:

Deliver a range of localised infrastructure on wetland and floodplain flats to increase the area and duration of quality shorebird and wetland habitat

Maintain food webs and improve critical breeding habitat for foraging waterbirds and other threatened species

Improve outcomes for waterbirds and strengthen Australia's commitment to international obligations, including the Ramsar Convention on Wetlands of International Importance.

The South Australian Department for Environment and Water will work closely with community groups, landholders and landscape boards to develop a regional approach to habitat restoration, targeting smaller wetlands that cumulatively have a large impact and create a connected mosaic of habitats across the region.

The integrated project will also work with First Nations groups to connect to Country and meet cultural obligations while ensuring the survival of healthy shorebird populations and vital wetland habitat.

Federal Minister for the Environment and Water Tanya Plibersek said restoring the Murray Mouth, Lower Lakes and Coorong was a critical investment in the health of the whole system.

"The Murray-Darling Basin is vital for our communities, farmers and First Nations groups, and we must also work together to protect and restore wetlands within the basin," she said.

"This new project will ensure the survival of our internationally significant wetlands and the plants and animals who call them home."

South Australian Deputy Premier and Minister for Climate, Environment and Water Susan Close said the Coorong, Lower Lakes, Murray Mouth and South East regions were areas of incredible biodiversity.

"A number of important habitat restoration projects are already planned or well underway, and this new funding will add to the work being undertaken," she said.



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“It is vital that we help our wetland environments to thrive so they can remain strong into the future for the important wildlife that relies on them.”

Greens spokesperson for the environment and water Senator Sarah Hanson-Young said the Murray Mouth, Coorong and Lower Lakes were special areas for many South Australians.

“Last year I was proud to stand with Minister Plibersek to announce that we had secured a critical lifeline for the Murray Darling after more than a decade of inaction,” she said.

“Today, I’m proud that the Greens’ advocacy has helped to secure this much-needed funding.

“The Greens have been fighting for years to protect this area from corporate greed and over-extraction, and this project will be an important step for our precious waterways and ecosystems.”

Original Article: [PS News by Andrew McLaughlin](#)

No one has security over Thames Water’s assets

Tim Short was an investment banker at Credit Suisse First Boston where he specialised in whole business securitisations, including for water companies. He has PhDs in physics and philosophy and has published several books. The fate of Thames Water should depend on the docs. It’s not just the default risk, but where the corporate structure the terms of default will apply. There are lots of special-purpose vehicles attached to Thames Water and a large amount of debt liberally distributed between them. Many FT articles have been enlivened by this corporate structure diagram: This complexity can be rendered down into a more useful distinction: between what is inside the securitisation ringfence and what is not. The ringfence can be seen as a security lockbox around the water company and the assets it needs to provide essential services, which are basically the provision of fresh water and the removal of wastewater. The Kemble bond that defaulted this month is outside the ringfence. It has no security over water company assets. They are inside the ring-fence and the bond is not. This and every other piece of debt outside the ringfence depend solely for its servicing on dividends coming out of the ringfence. There are very stringent conditions on when these dividends are allowed to be paid, as listed in a section of around 100 pages in the security package. You might ask why the bond hasn’t been paid. And you might think about what gives leverage against the regulator. In negotiations, when there’s a gun on the table, it’s sensible to at least look like you might pick it up. This prompts the question as to what would happen if defaults spread inside the ringfence. This is not guaranteed to happen, as the securitisation ringfence can be thought of as a firewall. Hell or high water can come to the financing arrangements outside the ringfence and the company providing water services can continue unscathed. What we want to know is how bad a default on debt inside the ringfence would be, and here we come to the arcane concept of “protected



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land.” The Water Industry Act 1991 defines “protected land” to mean anything that the company needs to provide water services (including plant and equipment — not just the land itself). Section 156 of the act prevents the appointed company from disposing of the land or any interest in it without the consent of the Secretary of State. What this means is that no one has security over the assets or land needed to provide water services. At this point, readers may be wondering: “Who is insane enough to lend £14.7bn unsecured?” which is a fair question. The answer is that while lenders don’t have any security over the assets, they have fixed and floating charges over the proceeds of any sale.

Original Article: [The Financial Times by Tim Short](#)

Belize and the UK collaborating on Marine Biodiversity Ambitions

Belize is recognised globally as a world leader in marine conservation and is continually striving to improve its marine ecosystems as it faces unprecedented pressures from climate change.

The UK government’s Ocean Country Partnership Programme (OCP) has been working with the Belize government and other organisations to provide technical assistance and funding to Belize to help achieve its marine conservation ambitions at a Marine Protected Area (MPA) network level. OCP’s MPA work has primarily been directed by the Ministry of Blue Economy and Disaster Risk Management whose remit is to enhance Belize’s blue economy through responsible ocean heritage use.

Belize has adapted the globally used Management Effectiveness Tacking Tool (METT) to suit Belize’s specific needs when reporting on the management effectiveness of its protected area network. The OCP team completed an overarching review of the both the National Protected Area System- Management Effectiveness Evaluation (NPAS-MEE) and site level assessments, collating information on MPAs and providing recommendations to streamline the processes. The programme also funded a Belizean organisation, Wildtracks, to complete the site level NPAS-MEE assessments on 14 of its MPAs in 2023 on behalf of the Belize Fisheries Department, to ensure they were completed ahead of the next NPAS-MEE assessment that is run every 5 years.

To ensure its MPAs are meeting global best practice, Belize also has a goal, as identified in the Belize Blue Bond, to begin the Green Listing process for at least three of its MPAs. OCP has contracted the IUCN Protected and Conserved Areas team to provide support to Belize, introducing the Green Listing processes to Belize government and NGO co-managers, completing rapid assessments on 14 MPAs to identify how close they are to meeting the Green Listing standard and providing recommendations to tackle any gaps.



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The programme has also set up the Expert Assessment Group for the Green Listing (EAGL) which will advise Belize colleagues as they enter into the formal process of Green Listing.

The management and monitoring of Belize's MPAs are critical in ensuring they meet global best practice. The OCPP team is undertaking a critical, independent review of the Managed Access Programme (zonal fisheries management within Belize's waters) on behalf of the Belize Fisheries Department. The programme is also exploring how new technology could support the enforcement of fisheries management and funding 6 members of the Belize Fisheries Compliance and Enforcement team to attend regional Caribbean training on Fisheries Interdiction and Prosecution.

The OCPP has also reviewed the data collected within Belize's MPAs to support the streamlining of data collection, analysis and use of indicators and thresholds to report on the condition of marine habitats and species. This work is also informing the development of an MPA focused Project for Finance Permanence Initiative that is underway from World Wildlife Fund (WWF) and The Nature Conservancy (TNC).

Future work:

The OCPP team will continue to support Belize at an MPA network level, identifying key indicators and thresholds for protected habitats, species and the threats facing MPAs. Providing support, where needed, to ensure selected MPAs are ready to formally enter the Green Listing process. Beginning to work, with an MPA focus, with Coastal Zone Management Authority and Institute (CZMAI) to support marine spatial data collection and processing to inform their Marine Spatial Planning process.

The Director of Blue Economy, Ms. Felicia Cruz commented, "Partnering with UK Government under the OCPP has been transformative for our efforts in Belize's Blue Economy. Through our collaboration, we've seen remarkable strides in tackling marine pollution, expanding the management effectiveness of our marine protected areas, and promoting greater sustainable seafood production. Together, we are not just imagining a healthier and more productive ocean, we're actively creating it."

The British High Commissioner to Belize, H.E. Nicole Davison remarked, "Through the Ocean Country Partnership Programme funded by the Blue Planet Fund, the UK is pleased to collaborate with our partners in Belize to support the science to effectively manage its marine resources sustainably and applauds Belize in its continued efforts to be leaders in marine conservation. We are glad to support Belize in achieving



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its marine conservation targets under the Blue Bonds Agreement and its 30X30 commitments.”

Wider work in the OCPP project in Belize includes:

Cefas is also collaborating with the Belize Agriculture Health Authority (BAHA) and the Ministry of Agriculture to support safe and sustainable aquaculture, improve biosecurity and strengthen regulatory frameworks for animal health and trade.

The OCPP programme is part of the UK government’s commitment to tackling plastic pollution, building on UK scientific expertise.

Original Article: [Breaking Belize News](#)

New PFAS lawsuit cites EPA's 'forever chemicals' drinking water rules

A new lawsuit filed by public drinking water systems in California against manufacturers of toxic "forever chemicals" is among the first to cite new Biden administration regulations that set strict limits for the chemicals in drinking water.

The Orange County Water District and more than a dozen other California water utilities filed the lawsuit in Los Angeles federal court on Friday against seven manufacturers of per- and polyfluoroalkyl substances, or PFAS, including Dynax America Corp. and Arkema Inc. The lawsuit accuses the manufacturers of negligence and of creating a nuisance by contaminating water with PFAS, and seeks money to remediate that contamination.

PFAS are a class of chemicals used in thousands of consumer and commercial products including firefighting foams, nonstick pans and stain resistant fabrics. They are often called forever chemicals because they do not easily break down in nature or the human body.

While the U.S. Environmental Protection Agency standards finalized on April 10 only apply to drinking water systems and do not directly regulate manufacturers, the lawsuit could be an example of how drinking water systems could use the regulations in court to their benefit.

Legal experts say that's because the rules create an unambiguous standard for what levels of PFAS in drinking water are acceptable, and so could make it easier for water systems to prove they have been harmed by the pollution.

Spokespeople for the parties did not immediately respond to requests for comment on Monday.

The lawsuit is likely to be transferred to a federal court in South Carolina where hundreds of similar cases have been centralized. A trial against many of the defendants named in Orange County's lawsuit by water systems across the U.S. is expected in September.



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Donald Trump's defense lawyers and New York prosecutors on Tuesday took turns challenging prospective jurors who may serve on the former president's hush money criminal trial.00:0302:28

The South Carolina litigation has already resulted in several major settlements worth over \$11 billion between water systems and chemical companies like 3M, DuPont de Nemours Inc., Chemours, Corteva and Johnson Controls subsidiary Tyco Fire Products.

Original Article: [Reuters by Clark Mindock](#)

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