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A River Under Pressure: Drought Risk in the Colorado River Basin

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SUMMARY

- Increasing drought risk has exacerbated water allocation challenges across the Colorado River Basin (the Basin).
- Long-term water allocations across the seven Colorado River Basin states remain contested. The federal government has intervened, resulting in mandated reductions for Arizona, California, and Nevada in 2027-2028.
- Breckinridge's integration of material sustainability factors in fundamental credit assessment and established portfolio diversification targets help us mitigate risks associated with Colorado River-related water reductions and disputes.



Falling Water Supplies Challenge Colorado River Basin Users

There is perhaps no better example of the implications of long-term drought than the ongoing dispute over water allocations in the Colorado River Basin. The Colorado River, colloquially dubbed "the hardest working river in the west," supplies water to roughly 40 million people in seven states and Mexico, including 30 tribal nations. It also irrigates 5.5 million acres of farmland.[1] Rules pertaining to reservoir operations and shortage management across the Basin are set to expire at the end of 2026. The Basin has had reduced available supplies since 2000,[2] resulting in water shortages for the Lower Basin States and Mexico and dropping reservoir levels in Lake Mead and Lake Powell. Dwindling supplies amidst competing demands led Lower Basin States (AZ, CA, NV) and Upper Basin States (CO, NM, UT, WY) to an impasse. The states were unable to reach consensus on water allocation after 2026.

Given the lack of consensus, in late August, the federal government issued a 10-year decision framework and specific operating guidelines for 2027–2028. The 2027-2028 operating guidelines mandate reductions for the Lower Basin States. Negotiations continue, and a future agreement among the states and the Secretary of the Interior could replace or alter the federal operating parameters.[3]

Under the Lower Basin sharing arrangement within the 2027-2028 operating guidelines, annual reductions equal approximately 27 percent of Arizona's normal apportionment, 17 percent of Nevada's, and 10 percent of California's.[4,5]

Upper Basin States face no mandated cuts in this two-year window, although the guidelines provide for additional releases from upstream federal reservoirs to protect Lake Powell. Meanwhile, Upper Basin conservation remains voluntary.

Heat, Drought Exacerbate Water Supply Pressures in the Basin

Warmer temperatures have increased the incidence of drought and pressured the Basin.[6] The "mega-drought" which began in 2000 resulted in fewer water supplies basin wide. Reduced water supplies are partly due to reduced snowpack. Notably, 2025-2026 recorded the lowest snowpack on record in Colorado,[7] which contains the headwaters of the Colorado River. Accumulation in the Basin above Lake Powell was 60 percent of the 30-year peak median.[8]

Lake Mead and Lake Powell are both approximately 26 percent full, as of November 1, 2026.[9] Per the 2027-2028 operating guidelines, if the most probable projection in any 24-month study shows Lake Mead dropping below 1,010 feet (about 29 feet lower than the November 1 reading) in the subsequent 12 months, the federal government will consult with Basin states and tribes to consider more actions.[5] More reductions could then occur for the Lower Basin States. Combined storage in Mead and Powell fell to its lowest point since Lake Powell began forming in 1963 behind the then-newly constructed Glen Canyon Dam.[3]

1. *The Colorado River*, Public Policy Institute of California, March 2025.
2. *Management of the Colorado River: Water Allocations, Drought, and the Federal Role*, The Library of Congress (Congress.gov), October 1, 2026.
3. *Interior Department Finalizes Plans for 2027-2028 Colorado River Operation*, *Bureau of Reclamation*, August 21, 2026.
4. *Boulder Canyon Operations Office Lower Colorado River Water Delivery Contracts*, *Bureau of Reclamation*, April 16, 2025.
5. *Operating Guidelines Colorado River Guidelines for Coordinated Operations of Lake Powell and Lake Mead Operating Years 2027 and 2028*, U.S. Department of the Interior, August 2026.
6. *The Fifth National Climate Assessment*, U.S. Global Change Research Program (USGCRP), November 1, 2023.
7. "It's been the worst year for Colorado's snowpack in recorded history. A striking new map shows why," *The Colorado Sun*, April 3, 2026.
8. *Colorado River Conditions Dashboard*, Central Arizona Project, as of November 1, 2026.
9. *Lower Colorado River Daily Report*, Bureau of Reclamation, as of November 1, 2026.

Credit Implications are Emerging for Basin Municipalities

Municipal entities that rely on Colorado River water face risks due to the ongoing negotiations and the federal government's involvement. Water/sewer service providers dependent on Colorado River supplies in Lower Basin States are most at risk over the next two years due to mandated reductions in Colorado River water allocations. For service providers in both Lower Basin and Upper Basin States, there is high uncertainty from 2029 onward. Water reductions for all seven states could occur beginning in 2029, or earlier if states reach an agreement with the Secretary of the Interior. In addition to the mandated reductions and possible future reductions, there is rising legal risk, all of which could be material. At least four material credit risks are relevant in our view:

1. **Operating risk.** Reductions in available surface water, mandated or voluntary, could force more reliance on costly groundwater or alternative sources over the medium-term.
2. **Financial risk.** Ongoing drought may require mandated or voluntary water-use curtailments, reducing revenue. Capital and operating expenditures could rise as reduced surface water supply results in the need to secure alternative supplies or construct new infrastructure. Leverage could increase.
3. **Affordability and political risk.** Increased costs may translate to higher rates for customers, especially under the traditional cost-of-service model. Higher rates could result in affordability concerns for lower income service areas or lower-income customers, and higher rates could result in political pushback.
4. **Legal/regulatory uncertainty.** States may sue one another or the federal government. Litigation has already begun. Nevada filed suit against the federal government, alongside the Southern Nevada Water Authority and the Colorado River Commission of Nevada.[10] Arizona joined the lawsuit in October.[11] More suits are possible. Litigation may extend the timeline to resolve water allocation across the Basin and increase uncertainty around solutions.

Specific State Impacts are Varied

Arizona faces the largest mandated reductions per the federal government's 2027-2028 operating guidelines. Arizona's Central Arizona Project (CAP) water, a system that supplies basin water to the Arizona region, could face a 14 percent reduction in municipal and industrial priority water per a preliminary state analysis.[12] Final CAP reductions could be even higher. Some of the largest municipal water utilities in the state rely on CAP water, including Phoenix and Tucson.

Southern Nevada is highly exposed in terms of Colorado River water reliance. The Southern Nevada Water Authority (SNWA), the principal wholesaler for southern Nevada, takes 90 percent of its water supply from the Colorado River.[13] Its high reliance poses risks given potential reductions now and in future. Positively, southern Nevada and SNWA have been proactive about resilience planning and conservation.[14] For example, SNWA built a third intake tunnel and low lake-level pumping station to access Lake Mead water at future very low elevations, and SNWA banked significant amounts of unused water resources to use at a later date.[15,16]

10. "Nevada Files Lawsuit Against Department of the Interior over Colorado River Operations Record of Decision," NV.Gov, August 24, 2026.
11. "Governor Katie Hobbs and ADWR Join Nevada in Colorado River Lawsuit to Block Federal Cuts to Lower Basin Water Supplies," Office of the Governor Katie Hobbs, October 16, 2026.
12. "CAP Impact of Colorado River Reductions," *Arizona Lower Basin Plan Implementation*, Arizona Department of Water Resources, June 30, 2026.
13. *Where your water comes from*, Southern Nevada Water Authority, as of November 1, 2026.
14. Breckinridge Capital Advisors, as of November 1, 2026.
15. *Intake 3 and Low Lake Level Pumping Station*, Southern Nevada Water Authority, as of November 1, 2026.
16. *Water shortages: The Colorado River Basin is experiencing the worst drought in recorded history*, Southern Nevada Water Authority, as of November 1, 2026.

California is less exposed in the near term.[14] Major water wholesalers that rely on Colorado River water, such as the Metropolitan Water District of Southern California (MWD), are unlikely to face unmanageable reductions in Colorado River water supply.[14] However, over the long term this is not certain. MWD's water supply diversification is exceptional.[14]

Underscoring Our Risk-Aware Approach

The Basin's difficulties underscore the importance of integrating climate risk and sustainability factors into municipal credit analysis in our view. Issuers with better sustainability profiles may be better prepared to manage water supply disruptions due to reworked Colorado River Basin allocations or other supply difficulties.

Our sustainability analysis for water/sewer issuers considers both drought risk and water supply risk (See The Water Footprint of AI: Implications for Investors). We also emphasize strong governance for all our municipal sectors. Strong management in the form of multi-year financial and capital planning, long-term water supply planning, liquidity and debt management, and water rate management all lend to more flexibility in the face of water supply uncertainty.

The situation in the Basin underscores the importance of service area size when reviewing municipal water utility credits. Larger issuers with diverse customer bases may be more resilient to affordability and cost pressures given the ability to spread costs across a greater number of customers.

In addition to our bottom-up sustainability analyses and credit review process, portfolio composition plays an important role. Diversifying portfolio exposure across several states and sectors can mitigate risks associated with specific regions or types of bonds.

Colorado River Basin Water Risks Require Multi-Dimensional Strategies

Prolonged drought is intensifying competition for Colorado River water across the seven states in the Basin, creating potential credit pressure for municipal entities reliant on the River. Lower Basin States face mandated supply reductions in the next two years, while all seven states face long-term allocation uncertainty. Our integration of sustainability and climate risk factors into fundamental credit analysis, combined with our portfolio diversification targets, helps us assess and manage these potential risks for our clients.

The content is intended for investment professionals and institutional investors.

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