

Recommendations on Future Assigned Water Programs

A report by the 2026 Colorado River Water Leaders



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Disclaimer

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Acknowledgments

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We also extend our appreciation to our employers for their continued support and encouragement, which has enabled us to participate in the Colorado River Water Leaders program and fully engage in this unique leadership experience.

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We are honored to have been part of the Colorado River Water Leaders Class of 2026 and are grateful for the relationships, knowledge and leadership experience we will carry forward in service to the Colorado River Basin.



2026 Colorado River Water Leaders cohort at Hoover Dam during the Lower Colorado River Tour in March.

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The vision for the Colorado River Water Leaders program is to assemble a group of early to mid-career professionals to participate in a series of facilitated interactions to encourage the sharing of varying perspectives, experiences and ideas to develop a broader understanding of the Colorado River system and evaluate management challenges with fresh eyes and through collaboration.

In addition to the cohort interactions, each participant is paired with a mentor. Mentors are seasoned policymakers or senior leaders in the Basin. Mentors and mentees are strategically paired to provide both parties with unique and potentially new viewpoints. The interactions include an interview and a day-long shadowing component.

The culmination of the Colorado River Water Leaders program is the development of this report, which seeks to provide Colorado River water managers and the river community with management suggestions. The focal point of this report is to look specifically at Assigned Water in the Colorado River Basin.

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Acronyms & Abbreviations

DMSA	Demand Management Storage Agreement
ICS	Intentionally Created Surplus
Lower Basin DCP	2019 Lower Basin Drought Contingency Plan
MOU	Memorandum of Understanding
MAF	Million acre-feet
NGO	Non-Governmental Organization
SCPP	System Conservation Pilot Program
UCRC	Upper Colorado River Commission
Reclamation	U.S. Bureau of Reclamation
USGS	U.S. Geological Survey
Upper Basin DCP	2019 Upper Basin Drought Contingency Plan
WCP	Water Contribution Program

Executive Summary

Assigned Water has become an important tool for improving Colorado River Basin resilience by encouraging conservation, increasing water stored in the system and providing flexibility to water managers. This report provides recommendations to strengthen the Assigned Water tool, referred to as Intentionally Created Surplus (ICS) in the Lower Basin, while developing a separate Assigned Water program in the Upper Basin, referred to as a Water Contribution Program (WCP) in this report.

In **Section One**, we recommend prioritizing communication, trust and relationship-building. One recommendation focuses on treating communication and relationship-building as critical infrastructure for Colorado River governance. It is important to improve how people and organizations work together, particularly as new Assigned Water programs are developed. Relationships should be built before disagreements arise, not after conflict has begun. Understanding and trust can be built through regular opportunities for water users, tribal communities, agricultural interests, cities, water managers, scientists, nongovernmental organizations (NGOs) and other stakeholders to interact. Neutral facilitators or mediators should also be considered for difficult discussions, helping participants identify shared goals and work through disagreements without taking decision-making authority away from the parties involved. This report reinforces one of the missions of the Water Education Foundation by recommending that relationship-building be an ongoing function, not a temporary initiative, and by supporting intergenerational leadership and knowledge transfer. Another recommendation is to create communication processes that meet people where they are and are designed around the people who need to use the information. Technical data about water conservation, accounting, storage, losses and ownership should be timely, accurate, understandable and accessible. Recognizing various forms of expertise is important to gain knowledge from different perspectives. Finally, focusing on durable outcomes rather than temporary consensus is important to allow people to disagree while continuing to work together. Indeed, success should not be measured by whether everyone agrees because on the Colorado River, disagreement is inevitable. Instead, success should be measured by whether governance processes can accommodate disagreement while maintaining productive relationships and advancing durable outcomes.

Section Two of this report provides recommendations on how the Assigned Water program could be improved and work in both the Upper (WCP) and Lower (ICS) Basins. One recommendation is to create clear rules for tracking, protecting, storing and eventually using that water, with reviews occurring every five years. This would allow managers to learn from experience, incorporate new science and adjust the program as river conditions and priorities change, while still providing participants with enough certainty to make long-term decisions. Evaporation losses should also be assessed annually so that water accounts accurately reflect how much water remains available. The recommendations also call for strong protections for conserved water. Water credited to a participant should not be reduced by operational decisions involving other water in the system. In the Lower Basin, participants would generally control when they use their stored water. In the Upper Basin, the program should include an appropriate mechanism for managing contributed water for the broader benefit of the Upper Basin. Finally, the program should encourage participation while protecting the larger river system. Compensation could vary based on location and the type and cost of conservation, with limits to prevent excessive payments or speculation. Where possible, releases should also be timed to provide environmental benefits, such as supporting fish and wildlife habitat.

The authors identified two recommendations specific to the Lower Basin: a one-time assessment on newly created ICS for the collective benefit of the system and establishing limits related to the storage and withdrawal of Assigned Water.

The authors also identified one recommendation specific to the Upper Basin: determine transit losses with site-specific methodologies to account for differences in geography and hydrology.

In **Section Three**, recommendations are made on how to improve current water accounting practices. They include establishing shared accounting standards for Assigned Water that reflect the physical realities of the Colorado River system and applying consistent consumptive-use principles across the Upper and Lower Basins. A "But For" standard should be considered to demonstrate that water savings would not have occurred absent the qualifying activity and that the resulting Assigned Water represents verifiable, quantifiable physical water, or "wet water." Regular audits and updates would help ensure continued accuracy. In addition, it is recommended that a robust Basin-wide monitoring network be developed. The U.S. Bureau of Reclamation (Reclamation) or the U.S. Geological Survey (USGS), with input from Basin stakeholders, should conduct a Basin-wide assessment to identify monitoring gaps and opportunities to incorporate existing state and local data. Additional investment in monitoring infrastructure and trained personnel would improve measurement of river flows, reservoir elevations, evaporation, water savings, contributions, conveyance and releases. Independent technical reviews are recommended to support program integrity. A small, impartial technical committee representing the Upper Basin, Lower Basin, tribes, NGOs and Mexico could evaluate proposed Assigned Water activities and provide science-based recommendations. Finally, transparency should be a cornerstone of the program. Therefore, a centralized, user-friendly data dashboard and document library should distinguish planned, created and released Assigned Water, with information updated regularly. An annual Basin-wide report should consolidate volumes, ownership, funding, losses, deliveries and ending balances. Together, these measures would improve accountability, stakeholder confidence and trust while creating a more credible and durable Assigned Water program.

Introduction and Background

In the Colorado River Basin, the term Assigned Water refers to a volume of water that has been conserved and left in system storage and is not part of system water (available through the priority system). For the purposes of this paper, “Assigned Water” is an umbrella term that encompasses the Intentionally Created Surplus (ICS) and the Mexico Water Reserve programs in the Lower Basin and the Water Contribution Program (WCP) in the Upper Basin (Figure 1).

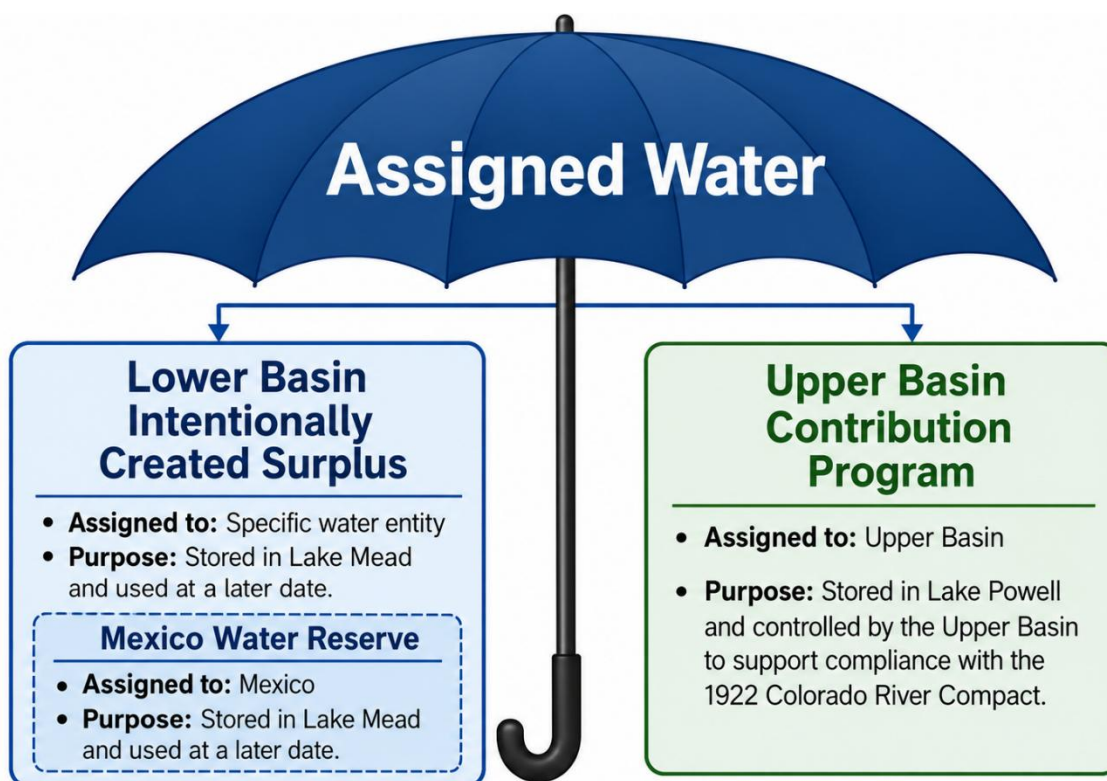


Figure 1 – Assigned Water umbrella term and how it applies in the Lower Basin and Upper Basin

The Colorado River is a shared resource that supports tribal, agricultural, municipal and industrial sectors as well as the environment. The 2007 Interim Guidelines created a framework for the development of ICS within the Lower Basin to provide operational flexibility for water users to manage year-over-year variability in available supplies. ICS was expanded with the 2019 Lower Basin Drought Contingency Plan (Lower Basin DCP) and subsequent Minutes to the 1944 Water Treaty with Mexico. Subsequently, ICS has become a key discussion element for the management of Colorado River post-2026, the process of which was ongoing during the development of this policy paper.

The ICS program provides a mechanism for water users to intentionally create and store surplus water in Lake Mead through the conservation of Colorado River water. Unlike System Conservation programs, which create system water for no specific user, ICS may be retrieved at a later date under specific conditions by the entity that created it. While the ICS program has encouraged conservation and increased storage¹, it has also generated significant equity concerns, interstate tensions and unintended consequences for long-term Colorado River management.

While an Assigned Water program would be a new tool in the Upper Basin, the Upper Basin has a history of developing and testing similar programs and frameworks. For example, the 2019 Upper Basin Drought Contingency Plan (Upper Basin DCP) authorized the framework for a potential temporary reduction in Upper Basin consumptive use that would be voluntary and compensated. And the Demand Management Storage Agreement (DMSA) authorized a conserved water pool in Colorado River Storage Project (CRSP) initial units (Lake Powell, Flaming Gorge, Blue Mesa and Navajo reservoirs). But these authorizations have not yet been fully utilized.

The System Conservation Pilot Program (SCPP) was a voluntary program through which Upper Basin water users were paid to temporarily reduce consumptive use, generating conserved Colorado River water to help mitigate drought and protect the broader Colorado River system, but the conserved water became system water and was not tracked and accounted for in a CRSP initial unit. As of 2024, the Upper Colorado River Commission (UCRC) has a Memorandum of Understanding (MOU) with Reclamation to develop provisional accounting for water conservation and other demonstration activities that conserve water. Together, these initiatives provide important experience and a foundation for considering an Assigned Water program in the Upper Basin. A Water Contribution Program, or WCP, could build on these efforts by providing a framework for formally tracking and crediting qualifying conservation while recognizing the distinct legal, hydrologic and operational characteristics of the Upper Basin.

The Colorado River Water Leaders cohort of 2026 is composed of twelve people across the Colorado River Basin. Each cohort member interviewed their mentor, a Colorado River expert, regarding Assigned Water and its potential future application in the Basin. Across these interviews, mentors identified ICS as a source of distrust and accounting disputes between the Upper and Lower Basins, particularly regarding whether “saved” water represents genuine system conservation. Perhaps it is not surprising that mentors also emphasized the value of dispute-resolution processes that could facilitate collaboration and address disagreements before they escalate to litigation. Section One of this report presents guiding principles to promote communication, trust and relationship-building. These are essential to create space for stakeholders to understand others' needs, concerns and constraints and to make difficult decisions together.

Across the mentor interviews, there was broad agreement that fundamental differences in geography and hydrology, legal frameworks and governance affect opportunities and limitations of Assigned Water in the Upper and Lower Basins. While several respondents saw value in expanding the concept to the Upper Basin, they emphasized that an Upper Basin effort cannot simply replicate the Lower Basin model. With this in mind, Section Two of this report offers recommendations to modify the Lower Basin ICS program and to develop a water contribution program in the Upper Basin.

Finally, many mentors' answers focused on the need for transparent, validated, understandable and accessible accounting, with particular concern raised around how evaporation is accounted for inconsistently across different types of ICS. Section Three proposes recommendations to improve accounting accuracy and develop systems applicable to both Upper and Lower Basin states.

Our mentors expressed strong support for carrying forward the foundational concept of Assigned Water as they see it as one of several necessary tools for achieving long-term stability in the Colorado River Basin.

Recommendation 1: Prioritize Communication, Trust and Relationship Building

Background

The Colorado River Basin has no shortage of technical expertise, legal frameworks or sophisticated models for managing water. What it lacks is a solution to the human challenge of making difficult decisions among parties whose interests, experiences and obligations are often fundamentally different. Nearly every participant interviewed for this project reached a similar conclusion: litigation is not the way to solve the Colorado River Basin's challenges. Durable solutions require trust, and trust is built through intentional communication and sustained relationships long before difficult decisions must be made.

This is particularly important as the Basin considers the future of Assigned Water programs. Whether through modifications to the Lower Basin's ICS framework or development of an Assigned Water program in the Upper Basin, these programs will require participants to accept complex accounting methodologies, evaluate whether water has actually been conserved, understand how losses are calculated and agree that the resulting water can be reliably tracked and delivered. These are not solely technical questions. They are questions of confidence, transparency and institutional trust.

The Colorado River Basin brings together seven Basin States, tribal nations, Mexico, agricultural producers, cities, environmental organizations and local communities — collectively known as Basin interests. Each brings different legal authorities, responsibilities, knowledge and experiences to the table. A process that works for one participant may be inaccessible or ineffective for another. Technical data may establish what happened physically, while legal frameworks may establish what is permitted, but neither necessarily establishes whether participants believe the process was fair or whether they understand how a decision affects their communities.

For Assigned Water to become a durable component of post-2026 Colorado River management, communication and relationship-building should be treated as foundational infrastructure. The objective should not be simply to communicate information after decisions have been made. Instead, Basin institutions should create processes in which participants can understand one another's interests and constraints, ask questions, identify areas of agreement and build the relationships necessary to address disagreements before they become disputes.

Treat communication and relationship-building as critical infrastructure for Colorado River governance.

Communication should be recognized as a core component of Colorado River governance and incorporated into the design and administration of future Assigned Water programs. Resources should be dedicated to relationship-building before conflicts arise rather than relying on emergency communication once a disagreement has already developed.

a. Build relationships before they are needed.

Institutions and program administrators should create regular opportunities for Basin interests to engage outside formal negotiations. These interactions should not be limited to periods when a major decision or crisis is imminent.

Regular engagement can build familiarity and trust among participants and provide opportunities to understand the operational, economic, cultural and legal constraints faced by others. Effective collaboration requires participants to be willing to understand why others hold particular positions before attempting to persuade them to change those positions. Basin discussions should encourage participants

to clearly identify their interests, needs and boundaries while creating space for authentic questions about the interests and constraints of others.

This is particularly important for Assigned Water because participants may disagree about whether a proposed activity constitutes genuine conservation or how the resulting water should be accounted for. This approach can help shift discussions away from an immediate focus on dividing a finite resource and toward identifying shared values and opportunities.

b. Incorporate neutral facilitation into high-conflict processes.

Negotiating bodies should routinely consider the use of trained, neutral facilitators or mediators for complex or high-conflict discussions. A neutral facilitator can help participants distinguish interests from positions, clarify areas of disagreement, identify shared objectives and keep discussions focused on problem-solving.

The role of a facilitator should not be to decide substantive questions or replace the authority of Basin interests. Rather, the facilitator should help create a process in which participants can communicate effectively and make informed decisions. Where appropriate, facilitators should be engaged early, before positions have hardened and litigation becomes the primary means of resolving disagreement.

c. Establish relationship-building as an ongoing function, not a temporary initiative.

Future Assigned Water programs should include an ongoing stakeholder engagement component with clearly identified responsibility for maintaining communication among participants. This function should continue between formal negotiations and should not disappear once a particular rule, program or agreement is adopted.

The objective is to create institutional relationships that can withstand changes in administration, leadership and individual participants. Durable relationships are particularly valuable in the Colorado River Basin because many of the issues under consideration will extend well beyond a single negotiation cycle.

d. Create opportunities for intergenerational leadership and knowledge transfer.

The Basin should support opportunities for experienced water leaders to share institutional knowledge with emerging leaders while creating space for new perspectives. Many of the relationships that currently facilitate Colorado River negotiations were built over decades. Preserving those relationships and the lessons learned through them is important, but so is ensuring that the next generation has opportunities to develop its own relationships across sectors and geographies. Leadership development should extend beyond individual organizations and encourage emerging leaders to understand perspectives outside their own sector or Basin division.

Create communication processes that meet people where they are.

Effective communication is not simply the publication of more information. It requires presenting accurate information in a manner that is understandable, timely and useful to the people who must rely upon it. Future Assigned Water programs should recognize that participants possess different levels of technical expertise, different information needs and forms of knowledge.

a. Make information timely, accurate, relevant and accessible.

Program administrators should establish clear communication protocols for the release of information concerning Assigned Water creation, accounting, losses, ownership, storage, releases and other program activities. Information should be provided early enough to allow participants to understand and respond

to it rather than receiving technical information only after decisions have effectively been made. For example, when accounting for water created through a conservation activity, stakeholders should be able to understand not only the resulting volume but also how that volume was calculated, what assumptions were applied and what losses or adjustments were incorporated. Explanations should use plain language, graphics and real-world examples where appropriate.

This approach is particularly important when accounting methodologies differ between the Upper and Lower Basins. Participants should be able to identify where methodologies are consistent, where they necessarily differ because of physical or legal circumstances and why those differences exist.

Public information should also be organized around relevant questions with accessible terminology and data formats. A technically complete database may not be useful if users cannot determine what the information means for their water supply, their community or the Basin as a whole.

b. Recognize multiple forms of expertise.

Communication processes should acknowledge that expertise in the Colorado River Basin extends beyond scientific and technical disciplines. Scientists, engineers, water managers, agricultural producers, tribal communities, municipal providers, local officials and others possess different forms of knowledge about the river and the communities that depend upon it.

Creating opportunities for these perspectives to inform discussions can improve both the quality of decisions and the willingness of participants to accept them. Listening should be treated as an essential component of communication, not merely an opportunity for stakeholders to provide comments after a proposal has been developed.

c. Focus on durable outcomes rather than temporary consensus.

Consensus is not always possible on the Colorado River, and it should not be treated as a prerequisite for making progress. A durable process is one in which participants can disagree while maintaining sufficient trust to continue working together.

Future Assigned Water programs should therefore include mechanisms for raising concerns, resolving disputes and revisiting methodologies as new information becomes available. Regular review and facilitated dialogue can provide an alternative to allowing disagreements to accumulate until litigation becomes the only remaining avenue.

To continue the example from above, this is particularly important for accounting. The same principle applies when methodologies, data or operating conditions change. Programs should be designed to accommodate new information through transparent review and adjustment rather than relying on a methodology that attempts to anticipate every future circumstance. Specific recommendations on Upper and Lower Basin opportunities, and accounting recommendations to compliment those opportunities, are laid out in the remaining recommendations.

Recommendation 2: Continue to Improve the Lower Basin Program While Developing an Upper Basin Program

Background

An Assigned Water program allows participants to save water for their future benefit. However, the potential benefits of an Assigned Water program, and the purposes of a program, are different in each Basin given the Basins' different frameworks, constraints and hydrology.

Purpose of the Lower Basin program

A Lower Basin Assigned Water program (Lower Basin Program) is intended as a water management tool to provide operational flexibility for Lower Basin contractors³ and Mexico to mitigate year-to-year variability of available water supplies. It could also help reduce the magnitude of shortage impacts on Lower Basin contractors and Mexico through qualifying conservation actions in a given year, allowing the conserved water to be stored in Lake Mead, credited to the benefit of the creating entity, and used at a later date. Assigned Water created under a Lower Basin Program would have the incidental benefit of protecting infrastructure at Hoover Dam, as Assigned Water stored in Lake Mead under the Program could help keep that reservoir's elevation above critical thresholds.

Purpose of the Upper Basin program

An Upper Basin Assigned Water program (Upper Basin Program) is intended as a water management tool to provide operational flexibility for the Upper Basin to support continued compliance with Article III of the Colorado River Compact. Under this program, conserved water is stored in Lake Powell, credited to the Upper Basin, and released at a later date for the benefit of the Upper Basin. This pool of water would also have the incidental benefit of protecting infrastructure at Glen Canyon Dam.

Colorado River Basin-Wide Recommendations

Although the Lower Basin and Upper Basin programs have unique considerations and different purposes, the following program recommendations would apply to both Basins:

1. **Review and update Assigned Water programs regularly:** Regular reviews would provide both Basins with flexibility to incorporate lessons learned and respond to changing hydrologic conditions and management priorities. Given the uncertainties associated with developing an Upper Basin Program, periodic reviews would enable stakeholders and water users to assess program performance across a range of hydrologic conditions while maintaining sufficient certainty for implementation. Program certainty is critical to give participants confidence and understanding on the impacts and benefits of participation. This approach can also foster broader support for an initial program design by providing a clear mechanism to address unintended consequences or program deficiencies. Additionally, evaporation coefficients and transit loss assessments, as applicable, should be reassessed and updated every five years based on the best available science.
2. **Establish clear administration of Assigned Water pools:** The administration of an Assigned Water program should reflect the different purposes and structures of the Lower and Upper Basin programs. Recognizing the federal government's role in operating and accounting for water in

Colorado River Basin reservoirs, an Assigned Water program depends on the assurance that the entity that created the assigned water determines when it calls on its benefits. In the Lower Basin, the assigned water created and stored by an entity would be credited to that entity for use in a future year, as determined by that entity. In the Upper Basin, administration would be carried out by a collective entity, such as the UCRC or the Upper Division states acting jointly. This is important as the Assigned Water created in the Upper Basin is not returned to (or used at a later date by) the individual water user that generated it but instead accrues to the benefit of the Upper Basin. Collective administration is necessary to ensure consistent accounting, management and distribution of program benefits.

3. **Protect Assigned Water pools from operational impacts:** Assigned Water would not be diminished by operational actions related to system water. Without adequate protections, Assigned Water could be subject to operational risks that erode its value or diminish the intended benefits. Ensuring that Assigned Water is retained for its intended purpose is critical to creating the certainty and incentives needed for water users to participate and invest in any program.
4. **Account for evaporative losses of Assigned Water openly and consistently:** Accurate evaporation assessments would help better reflect the quantity of Assigned Water that actually remains in storage for future use under each Basin's program. As recommended by Sorensen et al.,⁴ future volumes of Assigned Water in any reservoir should be assessed annually using a realistic and conservatively high evaporative loss rate based on Reclamation-established evaporation coefficients. In the Lower Basin Program, evaporation would be assessed to the individual creator's Assigned Water account, while evaporation assessments in the Upper Basin Program would apply to the pool collectively.
5. **Use Assigned Water to provide environmental flexibility:** To the greatest extent practicable, releases of Assigned Water should contribute to environmental benefits, provided such releases are compliant with the Law of the River and not in conflict with authorized project purposes. Strategic timing of releases could support streamflows to sustain critical fish and wildlife habitats and enhance overall ecosystem health.
6. **Tailor compensation for Assigned Water to encourage participation:** To encompass the diverse economic impacts and opportunity costs associated with water conservation across the Colorado River Basin, compensation rates should be tailored to geographies, participants or project types rather than using a single Basin-wide or statewide payment rate. At the same time, compensation ceilings for the Upper and Lower Basins should be established to prevent speculation and maintain program cost-effectiveness. Compensation structures should also be periodically evaluated to ensure that payments remain sufficient to encourage participation without creating incentives for speculative activity.

Lower Basin Program

Creation of Assigned Water by a qualifying activity in the Lower Basin would be credited to the creating entity, contributed to Lake Mead under a separate accounting structure (i.e., not "system water") and made available to the creating user (net of applicable creation and evaporation assessments) in a future year.

Recommendations

In addition to the Basin-wide elements recommended above, an Assigned Water program specific to the Lower Basin would include:

1. **Assessing Assigned Water upon creation:** In addition to applicable evaporation assessments noted in Basin-wide recommendation 4 above, Assigned Water created under a Lower Basin Program would be subject to a one-time assessment upon creation of new volumes in storage. A certain percentage of newly created “assigned water” would remain in Lake Mead as “system water.” This would generate both the intended future individual benefit for the creating entity and an immediate collective storage benefit. The magnitude of this one-time assessment should be established through collaborative program design and reviewed periodically to ensure that it continues to provide a meaningful collective storage benefit without undermining incentives to participate.
2. **Establishing guardrails for Assigned Water accrual, withdrawal and access:** Limits on cumulative and annual storage and annual withdrawals of Assigned Water would be established under a Lower Basin program.
 - ❖ Storage/accumulation limits. Accumulation limits were first set at 2.1 million acre-feet (MAF) under the 2007 Interim Guidelines (1.5 MAF for California, 0.3 MAF for Arizona and 0.3 MAF for Nevada)⁵, and expanded by 200 thousand acre-feet per state under the 2019 Lower Basin Drought Contingency Plan (Lower Basin DCP)⁶. The Preferred Alternative selected under the post-2026 process notes that “[w]ater conserved by Lower Basin users would be stored in a pool in Lake Mead that can reach a maximum volume of 7.0 [MAF], which includes the storage of pre-2027 ICS.”⁷ That maximum volume also includes an account of 1.5 MAF for Mexico.
 - ❖ Withdrawal/use limits. Limits on annual withdrawals of assigned water are intended to prevent sudden, large-scale withdrawals of ICS under low-reservoir conditions. While Lake Mead elevations have increased the need for this management tool to mitigate shortage impacts, as stated in the program’s purpose, there is also consideration warranted as to when delivery limits would be tempered in response to those conditions. Withdrawal limits should therefore be structured to protect Lake Mead while preserving flexibility for participants to use their Assigned Water when it is most needed, with periodic review of principles to ensure benefits continue to be achieved.

Upper Basin Program

Creation of Assigned Water by a qualifying activity in the Upper Basin would be credited to a central Upper Basin entity, such as the UCRC, contributed to Lake Powell under a separate accounting structure (i.e., not “system water”) and administered by the UCRC for the benefit of the Upper Basin.

Contributions to this program could occur in multiple ways, including: activity-specific reductions in consumptive use or storage forbearance (reservoir releases of water that would otherwise be used), or other qualifying activities.

Recommendation

In addition to the Basin-wide elements recommended above, an Assigned Water program specific to the Upper Basin would include:

1. **Accounting for transit losses based on site-specific conditions:** The program should incorporate project-specific methodologies for estimating transit losses as conserved water is conveyed to an Upper Basin conservation pool and ultimately to Lake Powell. A uniform transit loss factor would not accurately reflect the significant variability observed among states, river systems and delivery pathways. For example, the UCRC's 2025 Provisional Accounting Methodologies Report⁸ identified a project with a 20% transit loss over 18 miles and another with only a 6% loss despite traveling more than 300 miles. Accounting protocols should therefore be tailored to site-specific conditions to ensure equitable treatment of activities and accurate quantification of conserved water.

Recommendation 3: Improve Current Water Accounting Practices

An Assigned Water program should strive for shared accounting standards between Basins while accurately reflecting physical realities throughout the Basin

Despite recognition that Assigned Water and similar mechanisms should have a place in post-2026 operations, concerns exist with the current ICS program – notably, that evaporative losses associated with stored ICS are not fully accounted for, and that the program has limited participation as currently structured. To better achieve the objectives of future Assigned Water programs within the Colorado River Basin, we advocate for improved accounting procedures that more accurately reflect the physical realities of the Basin and strive for shared standards across Basins. At present, no Basin-wide standards exist to quantify actual system savings on a consumptive use basis. Implementing consistent accounting standards increases the effectiveness of a future Assigned Water program under the post-2026 operational guidelines. Consistent and public reporting assists with stakeholder buy-in and builds Basin-wide trust. Overall, increasing measurement and accounting accuracy Basin-wide will be essential for increasing participation and program effectiveness.

Expand and maintain a robust Basin-wide monitoring network

Assigned Water accounting would be bolstered by an expanded monitoring network designed to better quantify creation, conveyance and reservoir releases. An updated network would provide redundancy where appropriate. There are many types of applicable monitoring technologies with the potential to improve Assigned Water accounting within the Colorado River Basin by providing timely, accurate measurements including those related to reservoir elevation and river discharge. Combining existing data with additional measurement locations throughout the Basin could improve accounting by increasing monitoring density where Assigned Water activities are envisioned to occur.

The first step in network expansion is a Basin-wide review to identify coverage gaps in the hydrologic monitoring network related to Assigned Water. The Basin-wide review would additionally identify state and local hydrologic data that could benefit Assigned Water accounting. We understand that efforts to improve on-the-ground measurements throughout the Basin are ongoing and have been implemented by states, water users and the UCRC. We recommend a Basin-wide review be undertaken by the USGS or Reclamation, with extensive input from Basin stakeholders. Where monitoring stations are warranted, they should be administered by the USGS or Reclamation and tie into their well-established data platforms, with timely data publication and widespread distribution to Basin-wide interests.

Any monitoring network requires an investment in both physical infrastructure and the personnel required to install, maintain, calibrate and ensure the timely collection of quality data. Increased investments in collecting high-quality hydrologic data throughout the Basin will contribute to continued improvements in understanding the physical realities of administering an Assigned Water program, which can increase the effectiveness of accounting for Assigned Water activities. For example, continued investment in an Upper Basin monitoring network will likely increase confidence in Upper Basin states' ability to accurately track Assigned Water to target reservoirs. Similarly, quantifying reservoir evaporation throughout the Basin ensures Assigned Water accounting better reflects physical realities.

Establish a “But For” standard for accounting for creation of Assigned Water

Shared standards across Basins and fact-driven accounting that is regularly updated and publicly available will strengthen any proposed Assigned Water program⁹. It is possible to apply similar Assigned Water accounting standards across both the Lower Basin and Upper Basin programs (even though specific

methods may vary), striving to reflect physical realities as closely as possible, including evaporative losses of stored Assigned Water based on the best available science.

A “But For” test could be used to determine the creation of Assigned Water in both Basins, enabling flexible, creative program design while ensuring that qualifying activities generating Assigned Water are supported by actual “wet water.” The elements of a “But For” test are:

1. Proof of recent history of beneficial consumptive use^{10,11} (except for tribes with settled and quantified but unused water rights) or quantification of savings from system efficiency improvements;
2. Demonstrable water savings activities during a defined period;
3. The activity results in verifiable, quantifiable and communicable water savings that generate Assigned Water; and
4. Assigned Water is verifiably delivered to, or retained in, the target reservoir.

Establish independent technical review and auditing

To maintain the flexibility of a “But For” test while ensuring that activities result in “wet water”, it will be necessary for additional resources to be invested in vetting proposed activities, methods of verification and quantification, and methods of accounting. One strategy for vetting is to establish a technical, impartial review committee to evaluate proposed Assigned Water activities and provide recommendations to program administrators. One way a review committee could be structured is with five voting representatives (one Lower Basin, one Upper Basin, one tribal, one nongovernmental organization and one from Mexico), and one non-voting representative from the federal government. The committee would evaluate each proposed activity and provide a recommendation based on technical merits via majority vote. We emphasize that it is critical that such a committee remain small and be guided by scientific rigor and impartiality as its foundational standards.

As the program progresses, conducting regular audits will help to ensure ongoing accuracy and confirm that all qualifying “But For” activities continue to be supported by verifiable and quantifiable “wet water.”

Increase transparency in Assigned Water Accounting

Stakeholders generally desire more transparency in any Assigned Water program. Even though information is available through various platforms, developing a more accessible, centralized, detailed and user-friendly information system will better respond to stakeholder needs and help increase Basin-wide trust in an Assigned Water program. We recommend using data dashboards and a centralized library to meet this request and publishing a Basin-wide Assigned Water annual report.

The most effective data dashboards clearly differentiate between Assigned Water planned for creation, Assigned Water actually created and Assigned Water that has been released or used. This information should be broken out by a state and/or entity level. Additionally, identifying losses and assessments applicable to each qualifying activity will improve the dashboard’s usefulness. Reporting and accounting for Assigned Water should be updated as frequently as possible consistent with Recommendation 1 above.

Reclamation’s Lower Colorado Region has already developed a beta-version dashboard of Lower Basin Diversions and Consumptive Use. The UCRC is in the process of developing an Upper Basin-specific dashboard. As these dashboards continue to develop, they could incorporate Assigned Water as a distinct component of system water diversions, releases and consumptive use, with updates occurring at least

monthly. An Assigned Water program would also benefit from a centralized library that catalogs accounting methodologies, submitted proposals for qualifying Assigned Water activities (such as ICS Plans submitted to Reclamation), relevant agreements and other documents associated with Assigned Water.

Finally, a future Assigned Water program will benefit from an annual Basin-wide report documenting current volumes, status, creation, account holder, current funding agreements, relevant shepherding arrangements, assessments, evaporative losses, deliveries and ending balances and any other necessary details. The report can complement existing reporting requirements and serve as a clearinghouse for information. Although many practices are already in place, the cohort consistently heard that reporting on Assigned Water would benefit from greater clarity coupled with easier access to data.

Conclusion

Assigned Water can provide an important tool for improving Colorado River Basin resilience, but its long-term success will depend on more than the volume of water created or the precision of an accounting system. Participants must have confidence that the process is transparent, that information is understandable, that different forms of expertise are respected and that disagreements can be addressed without immediately escalating to litigation.

Communication and relationship-building should therefore be treated as critical infrastructure for future Colorado River governance. By investing in relationships before conflicts arise, creating communication processes that meet participants where they are and developing long-term capacity for facilitated collaboration, Basin leaders can create the conditions necessary for more effective Assigned Water programs.

The objective is not to eliminate disagreement. The Colorado River's competing demands and complex legal and hydrologic realities make disagreement inevitable. The objective is to build a Basin governance capable of managing disagreement productively. Durable relationships create the foundation for that governance, allowing participants to address difficult questions together, adapt as conditions change and build greater confidence in the decisions that ultimately emerge.

Future Assigned Water programs should build on that foundation with clear, adaptable program structures that recognize the distinct legal, hydrologic and operational realities of the Upper and Lower Basins. Regular program review, clear administration, protection of Assigned Water pools, appropriate treatment of evaporative losses, environmental flexibility and carefully structured incentives can provide participants with the certainty necessary to participate while preserving the flexibility necessary to respond to changing conditions.

That flexibility must be matched by credible accounting. Shared standards, robust monitoring, a “But For” standard for creation, independent technical review and auditing can help ensure that Assigned Water represents verifiable and quantifiable physical water. Transparent, accessible reporting can then allow participants and the broader Basin community to understand how water is created, accounted for, stored, released and used.

Together, these elements can make Assigned Water more than a mechanism for storing conserved water. They can create a framework that rewards meaningful conservation, supports operational flexibility and builds confidence among the diverse interests that depend on the Colorado River.

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9. Kuhn, Eric and Fleck, John, 2023, An Historical Perspective on the Accounting for Evaporation and System Losses in the Lower Colorado River Basin: Science Be Dammed Working Paper 4, 18 p., <https://ssrn.com/abstract=4466530> (accessed August 2026).
10. One method could use 7 out of the last 10 years, similar to the methodology of the Utah Demand Management Pilot Program. Prior conservation program participation (like the Pre-2026 ICS Program or the Utah Demand Management Pilot Program) could potentially be considered “use” in that year for the purposes of this methodology.
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