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ACTIVE AND PASSIVE WATER SAVING MECHANISMS ON THE COLORADO RIVER: CHALLENGES AND OPPORTUNITIES

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Current Efforts at Basinwide Water Conservation

Understanding many of the challenges facing the Colorado River requires a detailed knowledge of history, policy, law and science, but the central issue is deceptively simple: levels of basinwide water consumption need to decline.[1] This is both a short-term imperative—a response to the sharp reservoir declines in 2022—and a long-term challenge illustrated so effectively by the emergence of the bathtub rings post-2001. In a management regime where the ability to consume water is defined in terms of legal *rights*, reducing consumption can be a difficult request to implement. Nonetheless, progress in reducing consumption is being made on both time scales, often through fallowing programs in the Lower Basin where most water demands exist, but also through widespread municipal and Tribal water use reductions.[2] Over the short-term, Interior Department officials proudly point to deals promising at least 3 million acre-feet of savings through the end of 2026.[3] This builds on recent trends projecting Lower Basin water demand in 2024 dropping to levels not seen since the 1980s.

To build on this progress, it's useful to distinguish among the different categories of conservation mechanisms being employed: active versus passive conservation.

Most types of "active" conservation result in water savings of two types: System Water and Assigned Water.[4] The majority of savings since 2022 have been System Water, which as the name implies, is water left in the "system" (mostly the two big reservoirs) by water users incentivized recently by a massive influx of taxpayer funds through the Bipartisan Infrastructure Law and the Inflation Reduction Act.[5] These savings are distinct from so-called Assigned Water, which derives from programs financed by

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[1] For context, *see*: Schmidt, J.C., C.B. Yackulic, and Eric Kuhn. 2023. The Colorado River water crisis: Its origin and the future - Schmidt - 2023 - WIREs Water - Wiley Online Library (DOI: 10.1002/wat2.1672).

[2] Richter, Brian D. "Decoupling urban water use from population growth in the Colorado River basin." *Journal of Water Resources Planning and Management* 149, no. 2 (2023): 04022082.

[3] Deb Haaland and Camille Calimlim Touton. "*Opinion: Colorado River is vital to Arizona. Here's how we're protecting it*." azcentral. 10/14/2024. Opinion: Colorado River needs Arizona's collaboration, leaders say.

[4] Much of this discussion is inspired by: *Enduring Solutions on the Colorado River* (Kathryn Sorensen, Sarah Porter and John Fleck; August 16, 2024), Kyl Center for Water Policy at Morrison Institute, Arizona State University, Enduring Solutions on the Colorado River2.pdf (asu.edu); and the response from the Arizona Department of Water Resources: Response to "Enduring Solutions on the Colorado River": Baseless Accusations and Little Substance | Arizona Department of Water Resources.

[5] Together, the two laws provide $15.4 billion for western drought resilience (FACT SHEET: Biden-Harris Administration Announces New Investments to Protect the Colorado River System | The White House), with $4.6

the water users themselves, who then retain some level of ownership and control over the conserved water, including most importantly the right to withdraw and use that water at a later time. This category is epitomized by the Intentionally Created Surplus (ICS) program established in the 2007 Interim Guidelines and refined in the 2019 Lower Basin Drought Contingency Plan that—shockingly—by 2023 comprised nearly 40 percent of Lake Mead's current storage.

These means of active conservation are supplemented, unintentionally, by "passive" savings that accrue when water users simply cannot utilize water to which they are entitled due to financial, legal or physical constraints, or merely due to lack of demand. Many Tribal water rights fall into this category, as do some Upper Basin water rights held by users vulnerable to fluctuating annual streamflows upstream from major storage projects, and many rights held by users on the lower Colorado River mainstem.[6] These unintentional (i.e., passive) savings sustain deliveries to many current water users, including junior water users in the Upper Basin and downstream in the Lower Basin and Mexico.

Needed Areas of Reform

Refining Tools for Active Conservation

The current Environmental Impact Statement (EIS) process for developing post-2026 reservoir operations is an obvious opportunity for revisiting and refining existing conservation programs—especially those that sunset with the expiration of the existing Interim Guidelines.[7] One of the issues garnering most attention involves the role of Assigned Water in Lake Mead. By so effectively propping up reservoir elevations, Assigned Water delays or completely prevents the triggering of some mandatory shortage-based curtailments spelled out in the current rules. For a big Lower Basin water user that controls the Assigned Water, this may not be seen as a problem, as it basically shields them from a present-day curtailment by virtue of them having self-imposed a previous year(s) conservation program to create the ICS credit. However, this approach has the unintended consequence of hiding the current paucity of shared (i.e., System) water available in Lake Mead, something that will ultimately become obvious when those waters are someday recalled.

Proposed EIS Alternatives submitted from both the Lower Basin and a coalition of environmental NGOs (dubbed "Cooperative Conservation") call for water accounting practices that remove ICS water from the calculation of reservoir volumes when making delivery and curtailment declarations—an idea called "operational neutrality." If the Assigned Water currently in existence were removed from the current calculation of Lake Mead storage, severe shortage conditions would immediately be triggered. Thus, current discussions primarily call for this operational neutrality to be applied to newly created Assigned Water (sometimes known as "top storage"), while any conversion of pre-existing ICS would take place gradually, if at all. Another issue is whether or not this new Assigned Water should be limited to Lake

billion of Inflation Reduction Act funding directed specifically for the Colorado River Basin System Conservation and Efficiency Program (Bureau of Reclamation Funding in the Inflation Reduction Act (P.L. 117-169)).

[6] For example, water unused by entitlement holders on the mainstem in western Arizona, including those held by water users in the major irrigation districts near Yuma, is swept into central Arizona via the Central Arizona Project and delivered to municipal water providers, Tribes, and other water users in the Phoenix-Tucson area.

[7] Information about the EIS process is available from the Bureau of Reclamation at. CR Post-2026 Operations | Bureau of Reclamation (usbr.gov).

Mead, as in the current program, or expanded to Lake Powell as well. Cooperative Conservation envisions a situation where the water would be stored in both reservoirs, with Reclamation moving this water around strategically to achieve environmental and other objectives.[8] Upcoming modeling results from Reclamation should further refine this discussion.

Implementing some form of top storage resolves at least one major concern in the existing fabric of water saving mechanisms, but it would not effectively address the core problem of overallocation and overuse as ICS water can be recalled and consumed by the owner at a later date based on the specific terms of the credit. In this way, consumption is shifted in time—which can undoubtedly be of some benefit in water management—but it isn't truly reduced. For everyone but the owner of the Assigned Water, the only water that reduces the risk of shortages is System Water that is available to everyone according to the rules comprising the Law of the River and Prior Appropriation. The benefit of System Water to downstream water users is most direct and obvious: greater levels of reservoir storage translate to more secure water supplies. For Upper Basin users, however, the benefit is more nuanced, as the creation of System Water is beneficial only to the extent that it can be shown to reduce the possibility of Upper Basin curtailments associated with a Compact call, a scenario that entails a great deal of legal and political uncertainty. In part for this reason, it's been difficult to generate much enthusiasm in the headwaters states for conserving large volumes of water without some form of quantified credit.[9] The Upper Basin proposal to the EIS Alternatives phase is clear that additional water saving efforts are anticipated, but will require some resolution of this concern.

Overlaying all these issues is the reality that recent successes in creating System Water, in both the Upper and Lower Basin, were not seen in the basin until Assigned Water volumes approached the limits specified in the existing rules, and perhaps more saliently, when the huge influx of federal funds became available through new legislation. Those funds will soon be exhausted. Temporary solutions are fine for temporary problems, but there is no compelling reason to think the fractured water budget of the Colorado River is a passing concern.

The Special Case(s) of Tribal Water

There is optimism that new rules regarding "active" water conservation methods will emerge soon as part of the post-2026 rulemaking. A more difficult set of issues surrounds the conservation of Tribal water. Some Tribes, such as the Gila River Indian Community, are already significant participants in existing active conservation efforts, an arrangement that should persist and be nurtured in future program iterations. But reforms in that area do not directly address the issue of currently undeveloped, unused, unquantified and uncompensated Tribal water rights, and the desire of Tribes to receive some form of compensation for not developing and utilizing those rights now and in the future. Both Non-tribal and Tribal water users throughout the basin rely upon these passive savings, including for creating

[8] This sort of operational flexibility is central to the ideas in the proposed Alternative submitted by three CRRG members (John C. Schmidt, Eric Kuhn and John Fleck) entitled: *Managing the Powell/Grand Canyon/Mead ecosystem after 2026*. 3/29/2006.

[9] On October 28, 2024, the Upper Colorado River Commission (UCRC) approved a MOU between the Upper Basin states and the Bureau of Reclamation marking a first step in efforts to provide credit for water savings. UCRC Approves MOU between Upper Basin States and the Bureau of Reclamation – Upper Colorado River Commission.

System or Assigned Water when they agree to temporarily suspend that consumption. Providing meaningful incentives for Tribes to continue these passive water savings is a pressing need in a basin already burdened with excessive demands, but doing so in a way that is equitable to all Tribal and non-Tribal interests is a challenge, as is identifying the funding source.[10]

As part of the EIS process, a consortium of 20 Tribes have urged Reclamation Commissioner Touton to adopt rules that "[e]mpower Tribes to determine how and when to use their water rights by adopting and supporting a portfolio of flexible tools,"[11] including mechanisms allowing Tribes to voluntarily utilize their water rights—of both used and unused water—in conservation programs, off-reservation leasing programs (including for environmental and instream flows), and forbearance agreements. The new post-2026 guidelines and implementing legislation provide an opportunity to make progress toward these goals.[12]

Next Steps

Some desirable elements of new conservation rules are already apparent. The reform of ICS programs to feature operational neutrality would be an obvious step forward; the much thornier issue is how to convert (if at all) existing ICS credits. The case for establishing mechanisms for involving Lake Powell (and upstream water users) in conservation programs is also compelling, as are nascent proposals seeking to establish some form of "reserve" or pool to benefit environmental resources. In all these discussions, special efforts will be needed to acknowledge the salient role of Tribes and Tribal water, and the need to continuously strive for greater equity and inclusion. The importance of acknowledging and continuing the involvement of Mexico in achieving basinwide conservation goals is also apparent, although this will primarily need to occur through processes complementary to the EIS effort. As discussions continue in each of these areas, it must not be forgotten that System Water is ultimately much more useful to the basin than Assigned Water, even if the latter is much more attractive to the entities with the resources to implement large-scale conservation programs. Establishing new mechanisms for funding future System Water conservation may prove to be the biggest challenge of them all, however, the alternative—relying on federal appropriations—is clearly a losing proposition. Each of these potential pathways for updating and expanding water saving mechanisms will require additional study and discussion in order to fully understand their full basinwide implications and to avoid unintended outcomes. The next 18 months are a critically important window to make progress.

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[10] Reclamation Commissioner Touton recently attempted, unsuccessfully, to fund tribal forbearance programs through Bucket 2 (B2W) funding under the Inflation Reduction Act. (*See*: Sackett, Heather. "*Feds rule that next round of drought relief funding won't cover tribes unused water*." KUNC. 10/12/2024.) This episode is a reminder that any program allowing some Tribes to be compensated for conserving entitlement water that was not historically in use may create precedence or a claim for non-Tribal entities to be similarly compensated.

[11] Joint Letter re Tribal Principles 5.17.24

[12] As of November 2024, the brief description of EIS Alternatives provided by Reclamation only promises an "explicit accounting of unused/undeveloped quantified Tribal water." *Post-2026 Colorado River Reservoir Operational Strategies for Lake Powell and Lake Mead: Narrative of National Environmental Policy Act Alternatives*. narrative-updated.pdf.