



MAY 2026

The Utility of Operationally Neutral and Flexible Conservation Pools in the Colorado River Basin

AUTHORS

John Berggren, Regional Policy Manager, Western Resource Advocates

Kevin Wheeler, Principal, Water Balance Consulting

Water Year 2026 Challenges

The U.S. Bureau of Reclamation's "April 24-Month Study" indicates that under the "**most probable**" scenario, Lake Powell will fall below 3,500 feet by August of this year if no further action is taken. Reclamation has indicated, however, it intends to plan for the "**minimum probable**" scenario that has the reservoir crossing this critical threshold in July. In response, Reclamation will be releasing additional water from the Upper Initial Units (UIU) under the 2019 Drought Response Operations Agreement (DROA) in the range of 660 thousand acre-feet (KAF) to 1 million acre-feet (MAF). Reclamation has indicated these releases would come from Flaming Gorge reservoir and will help keep Lake Powell from dropping to critical levels.

Concurrently, Reclamation has announced it intends to reduce Lake Powell releases from 7.48 MAF to 6 MAF during Water Year 2026 under **Section 6E of the 2024 Record of Decision from the Supplemental Environmental Impact Statement to the 2007 Interim Guidelines (SEIS)**. Reducing Powell releases has implications for elevations in Lake Mead as well as significant Colorado River Compact implications. In the absence of any operational adaptations, the 10-year cumulative flow at Lee Ferry will fall to 82.7 MAF by the end of the current water year. If releases are reduced to 6 MAF and 1.48 MAF of water is withheld in Lake Powell between April and September 2026, as is currently planned, the 10-year cumulative flow will be approximately 81.2 MAF (Figure 1). This would risk triggering legal action by the Lower Basin.

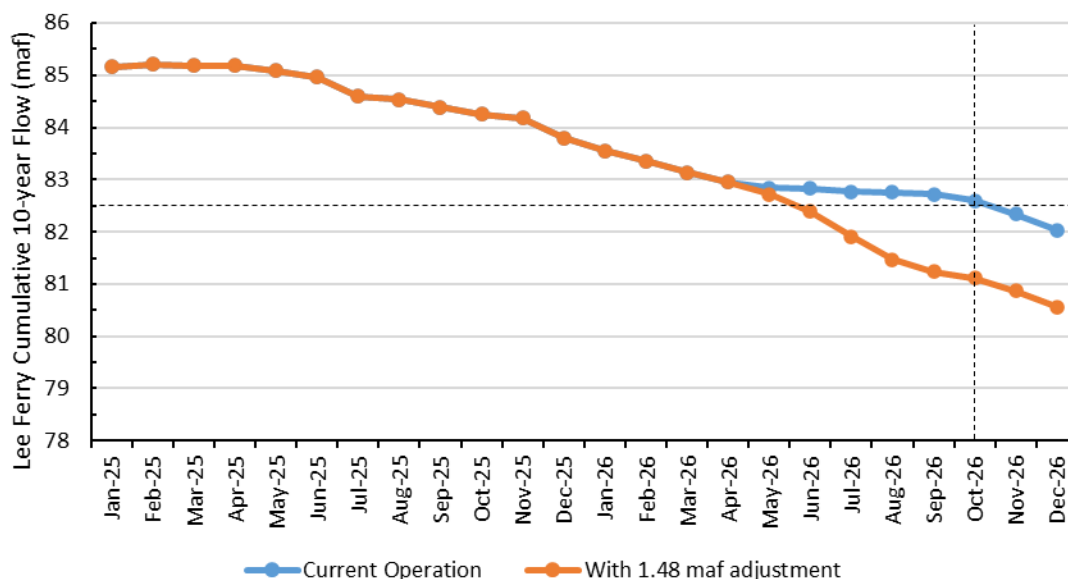


Figure 1. Lee Ferry Cumulative 10-Year Flow. The blue line shows the estimated decline of the cumulative 10-year Lee Ferry flow before any adjustments. The orange line shows an accelerated decline following a 1.48 MAF reduction to Lake Powell releases made under 6E SEIS authorities.

Despite this immediate legal risk, Reclamation's modeling demonstrates that both mechanisms will be required to protect Lake Powell this year, but just barely. Under "minimum probable" hydrology,

these actions would still result in Lake Powell dropping to 3,500 feet — dangerously close to the hydropower intakes.

The Upper Basin has reluctantly accepted the proposed DROA releases that will significantly impact Flaming Gorge, but it harbors significant concerns over whether water releases from the UIUs will be used to benefit the Lower Basin and how storage of the UIU reservoirs will be recovered. Similarly, the Lower Basin has issues with the reduction of Lake Powell releases to 6 MAF, citing concerns over violations of the Compact and suggesting that more water should be released from the UIUs. Neither Basin is happy with Reclamation's response to the dire hydrology this water year.

How Could Water Year 2026 Have Been Different?

The challenges discussed above present an opportunity to examine exactly how a primary tool developed for several of the alternatives in the Post-2026 Draft Environmental Impact Statement (DEIS) — operationally neutral and flexible conservation pools — could provide another means to handle extremely dry years. While current guidelines do not allow for this flexibility, Water Year 2026 does provide a concrete example for how moving conservation pool water could mitigate low runoff years and protect critical infrastructure without many of the challenges discussed above. In this hypothetical scenario, we demonstrate how if conserved water currently stored in Lake Mead were to be treated as an operationally neutral conservation pool with flexibility where it is located, Reclamation could more easily protect Lake Powell.

As of the end of the year 2024 (the most recent Reclamation Colorado River Accounting and Water User Report), there was 3.32 MAF of conserved water, called Intentionally Created Surplus (ICS), being stored in Lake Mead. If this current conserved volume would be considered operationally neutral, as in some of the proposals in the DEIS alternatives, then Reclamation could move a portion of this conserved water up to Lake Powell. ICS water can be “moved” to Lake Powell by reducing releases from Glen Canyon Dam. Importantly, these reductions in Powell releases would not occur under the 2024 SEIS 6E authority and therefore would have no impact on Compact compliance.

In the current case, the proposed 1.48 MAF reduction of releases from Lake Powell could be considered a transfer of ICS water from Lake Mead to Lake Powell. The reduction of releases would be added to the physical volume crossing Lee Ferry. It would be as though 7.48 MAF were released from Powell, even though only 6 MAF were physically released, so there would be no risk of a Compact violation. That water would help to prevent Lake Powell from reaching critical elevation levels but would remain under the ownership of the Lower Basin contributors. Similarly, instead of needing to release 1 MAF from Flaming Gorge, Reclamation could release only 500 KAF from the UIUs as part of DROA, and move an additional 500 KAF of ICS water up to Lake Powell by making a physical release of 5.5 MAF for Water Year 2026 from Lake Powell (again, as though 7.48 MAF were released). This would keep more water in Flaming Gorge, which serves as a potential buffer if Water Year 2027 is similarly dry.

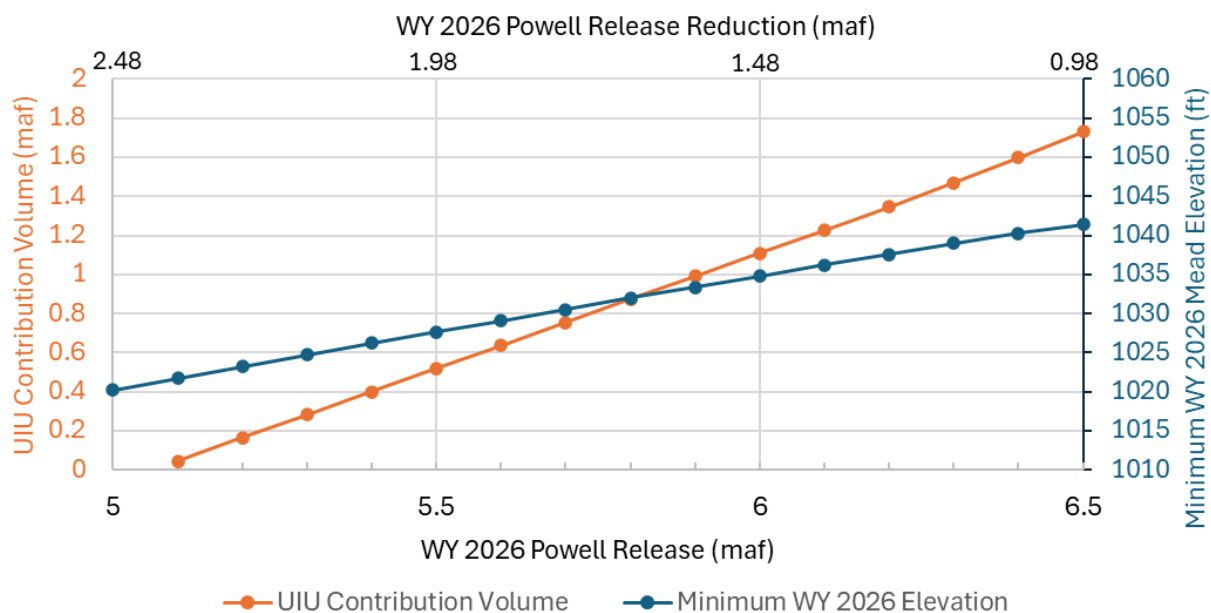


Figure 2. Options for Protecting the Elevation of Lake Powell. Under the “minimum probable” hydrologic condition from the April 24-month study, the orange line shows combinations of contributions from Upper Initial Units (UIUs) and Water Year (WY) 2026 releases from Lake Powell to maintain 3,500 feet elevation. The blue line shows the resulting minimum elevation of Lake Mead during Water Year 2026 on the right axis.

As shown in Figure 2, several options exist to maintain Lake Powell at 3,500 feet during the projected lowest month of March 2027. The options towards the left side of the graph indicate lower releases from UIUs and reduced releases from Lake Powell (i.e., increases in release reductions relative to the initially assumed release of 7.48 MAF). The options on the right side of the graph rely on larger contributions from UIUs and greater releases from Lake Powell (i.e., smaller release reductions).

What if Additional Water Is Needed Later in Water Year 2026?

Concerningly, the “minimum probable” hydrology is not the worst-case scenario and additional flexibility may be required. The April to July runoff of Water Year 2026 is tracking very closely to Water Year 2002, which resulted in the historically lowest inflow to Lake Powell. Today, with the starting elevation more than 120 feet lower than it was in 2002, such a sharp decline would have far worse implications for Lake Powell. Using both levers to the extent currently planned may not be enough to keep Lake Powell at a safe elevation. Building upon the 24-month study, if April to September inflow is equivalent to 2002, the “hole” in Lake Powell that Reclamation would need to fill might require an additional 530 KAF from currently projected volumes to maintain Lake Powell at 3,500 feet. To fill this hole, Reclamation may need to release additional water from the UIUs, but that presents significant physical risks because we cannot be certain what 2027 will be like and it would certainly face significant Upper Basin opposition. On the other hand, additional reductions from Lake Powell below 6 MAF faces mounting legal risks, including exceeding Reclamation’s authorities under the SEIS and further exacerbating Compact concerns along with Lower Basin opposition. Having the flexibility to, again, pull from an operationally neutral conservation pool to respond to changing conditions and fill the

inherently uncertain hole, provides a solution that avoids many of the legal, hydrologic, and political uncertainties.

What Happens to Lake Mead?

The other benefit to having a flexible conservation pool is not just in the short term to move water up to protect Powell, but in the medium term as it provides the mechanism to move that water back down in future years. Water might be needed in Water Year 2026 to protect Powell, but in Water Year 2027 it could be moved back down to Mead, depending on system conditions and priorities. Reducing Powell releases under Reclamation's 6E authority provides no similar mechanism to recover that water in Mead in future years.

What if Water Year 2027 Is Dry?

In the absence of institutional barriers, prudent extended drought management operations in a generalized multi-reservoir context suggest keeping as much water as possible higher in the system, bringing water down only when it is needed. This approach keeps more options open for unknown future conditions. Furthermore, it minimizes evaporative losses due to cooler temperatures at higher elevations. In the context of the current Colorado River crisis, this would equate to minimizing additional releases from the UIUs while maximizing the use of adaptations to releases from Lake Powell, but only to the extent possible without impairing the operations of Lake Mead. If this mechanism were possible, more water could be retained in the UIUs while less water is released from Lake Powell. This approach increases the overall system protection if Water Year 2027 were to be dry.



Photo credit: Dave Papineau, multimedia specialist, Western Resource Advocates

About the Authors



John Berggren is a regional policy manager with WRA, where he develops and advances equitable policies to improve regional and interstate water governance and management in ways that benefit rivers and the communities, recreation opportunities, and the environment they support. Using his deep knowledge of Western river and water issues, he collaborates with conservation community partners, water providers, federal and state agency staff, and other decision makers to further the next generation of water management strategies. John completed his Ph.D. at the University of Colorado where he focused on sustainable and equitable water management in the Colorado River Basin.



Kevin Wheeler is the principal of Water Balance Consulting, honorary research associate at the Environmental Change Institute of the University of Oxford, and advisor to the Future of the Colorado River Project at Utah State University. He has worked on issues surrounding the Colorado River for over 25 years, supporting federal and state governments, NGOs, Tribal communities, and various water users with technical analyses to identify and explore potential collaborative solutions. Furthermore, he works in contentious and water scarce river basins around the world, bringing a wider perspective of problem solving through dialogue and water diplomacy. Kevin completed his engineering degrees at the University of Colorado and his Ph.D. in negotiated risk management of transboundary rivers at the University of Oxford.

Contact

John Berggren

john.berggren@westernresources.org

Regional Policy Manager

Western Resource Advocates