


2026.02.27

Bureau of Reclamation
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Topic: Written Comments on Draft EIS
Post-2026 Colorado River Reservoir
Operational Guidelines

Dear Bureau of Reclamation,

Please accept these comments on the Draft Environmental Impact Statement for Post-2026 Operational Guidelines and Strategies for Lake Powell and Lake Mead (Draft EIS).

A) Supply-Driven Alternative

Supply limitation. Thank you for including an alternative acknowledging the plain fact that snow and rain are the ultimate authorities here. While the current long-term trend of diminishing watershed yield continues, supply limitation will govern availability of management options. Although “supply-driven” may sound better, and despite large carryover storage capacity, this system remains supply-limited, so that should be the label. Inclusion of a direct supply limitation alternative is a step along the path forward; however, the specific formulation chosen to represent the concept is too flawed to warrant serious consideration. The principal flaw is the portion of natural inflow to be discharged through Glen Canyon Dam. This parameter of paramount importance was set at 65 percent. The executive summary does not explain why. Section 2.8 of the main body of the Draft EIS does not explain where this number comes from. Appendix D does not explain how the value was chosen.

Alleged Constraint. Careful listeners might have caught a clue during the presentation of alternatives during the virtual public outreach meeting on January 29th, 2026, when Alan Butler, P.E., alluded to a basis somehow related to a minimum annual discharge constraint of 4.7 million acre-feet (maf). Description of the relationship between lower bound annual discharge volume and fixed discharge percentage was not given. Continued investigation using a PDF search function leads to some information about the minimum discharge in Section 2.6.2.1 of the Draft EIS, where there is mention of a minimum annual release of 4.7 maf, “in accordance with LTEMP.” Further sleuthing reveals no such figure in the text of the 2016

Record of Decision for the Glen Canyon Dam Long-Term Experimental and Management Plan Final Environmental Impact Statement. In order to arrive at the number, extra digging is necessary. Attachment B, Table 1, lists minimum flows as 8,000 cubic feet per second (cfs) from 7 a.m. to 7 p.m. and 5,000 cfs from 7 p.m. to 7 a.m. Neglecting hourly ramping limits, the average is 6,500 cfs. That is equivalent to 12,893 acre-feet per day or 4.7 maf per year. At last, the alleged lower bound.

Alleged? Yes. 6,500 cfs is not a run-of-the-river number or an identified minimum turbine discharge constraint. In extreme drought, natural flow can be less. Lower flow, even less than 4,000 cfs occurred from time to time before and after closure of Glen Canyon Dam (USGS Professional Paper 1677, Figure 35A). In the 1930s flow fell below 2,000 cfs. So, where did the LTEMP minimum flow definition come from? Although information is scant, it appears that the document-specific definition was either a legacy of prior efforts or was developed for LTEMP with a stream temperature target in mind. Warming and drying trends may put prior targets beyond reach during acute drought periods. While this will cause environmental change, it need not be catastrophic. So, should there be a lower bound, and what should the fixed release percentage be? Water managers must work with the amount of water available and conserve storage to prevent critical level problems. Specificity is given by page 1 of the LTEMP, "...water will continue to be delivered in a manner that is fully consistent with and subject to the Colorado River Compact,...the Water Treaty of 1944 with Mexico...and...provisions of...[other documents]...that govern allocation of the waters of the Colorado River..."

Correct Percentage. Article III of the Colorado River Compact of 1922 allows 7.50 maf per year of consumptive use by the upper basin plus 7.50 maf of consumptive use by the lower basin. The lower basin is also allowed an additional 1.00 maf per year. Water for Mexico is to be taken from the upper and lower basin allocations in equal measure. Consumptive use by the upper basin must not deplete the flow at Lee Ferry below 75 maf per ten years. Remaining unapportioned water may be dealt with at a later date. The treaty with Mexico allots our neighbors 1.50 maf per year. Supplemental information indicates that 0.02 maf is attributable to the Para River, an upper basin tributary to the Colorado that empties below Glen Canyon Dam, and that the 1.00 maf of additional lower basin water refers to the Gila River in Arizona¹.

From these facts several points arise. Under hydrologic conditions thought to prevail at the time of the compact, some water should be left unallocated to flow to the sea. When natural watershed yield of the drainage area tributary to Lee Ferry is less than then thought to be normal, at just 15.00 maf per year (14.98 to Lake Powell), all of the water is allocated. The name plate allocation is 6.75 maf to be consumed by the upper basin, 6.75 maf to be consumed by the lower basin, and 1.50 maf to be delivered to Mexico (0.75 maf from each subbasin). This program gives an annual Lake Powell discharge volume of 8.23 maf (6.75 + 0.75 – 0.02). The corresponding percentage of natural inflow to be released from Lake Powell is 55 percent (8.23/14.98). Please revise the Supply-limited Alternative by replacing 65 with 55 percent, and then repeat modeling.

¹ The Colorado River: The Story of a Quest for Certainty on a Diminishing River by Eric Kuhn, 2007.

B) Equalization Parameter Bias

Reservoir equalization parameter bias in favor of Lake Mead is apparent in the analysis. For example, the discrepancy in elevation buffers is not explained. Why does Lake Mead get a buffer of 25 feet while Lake Powell gets 10 feet? Why do the equalization parameters yield modeling results indicating that Lake Powell is more vulnerable to critical level problems (Table ES-4 v. ES-5)? After discard of the one-reservoir alternative, equalization parameters and coordinated operation procedures should be calibrated to produce like exposure to risk for both reservoirs over the long term. Please revise equalization parameters for all alternatives that use them, and repeat modeling.

C) Suite of Alternatives

Upper basin representatives submitted an alternative on March 5th, 2024. This was not even considered by the Draft EIS. While it might not turn out to be the preferred alternative, it should at minimum be part of the analysis. A lower basin alternative should also be part of the analysis. Beating around this political bush does not alter the inescapable fact that snow and rain govern. Therefore, supply limitation must inform the preferred alternative. This does not preclude consideration of alternatives that use indirect supply limitation linkages. Please expand the suite of alternatives to include the upper basin alternative and a lower basin alternative.

Thank you for the opportunity to comment, for your work to address these comments, and for your effort to reach a sound decision as you strive to be an effective steward of our vital water resources.

With kind esteem,



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