Peer Review Plan

24-Month Study Year 1 and Year 2 Analysis and Recommendations

Date:
March 20, 2026

Originating Office:
Research and Modeling Group, Upper Colorado Basin Region, Bureau of Reclamation
Salt Lake City, UT 84116

Reclamation Roles:
Director or Delegated Manager: Valerie Deppe, Projects, Operations, and Modeling Division Manager, Upper Colorado Basin Region, Bureau of Reclamation

Peer Review Lead: Paige Becker, Research Hydrologist, Upper Colorado Basin Region, Bureau of Reclamation

Subject and Purpose:
Reclamation publishes a 24-Month Study (24MS) each month projecting monthly reservoir operations for the Colorado River. The 24MS uses an unregulated inflow forecast that is derived a combination of methods, which includes water supply forecasts from the Colorado Basin River Forecast Center (CBRFC), that are disaggregated monthly in the 24MS's first year, coupled with historical streamflow statistics for the second year. Forecasts prepared by the CBRFC for the first year currently use a period method, where April through July are aggregated then exceedances are calculated from that aggregation. The aggregated April through July period forecast, termed the water supply forecast, is disaggregated monthly by Reclamation for use in the 24MS's first year. The exceedances for each month using the period method are different than the individual monthly exceedances, and so it is unclear which method, period or monthly, is more accurate and reliable for water supply forecasts. Additionally, previous work on the second year of the 24MS suggests using the 50th percentile from CBRFC's ensemble streamflow prediction (ESP) forecast improve forecasting as compared to using historical streamflow statistics as is currently done in the Most Probable projection. This analysis is expanded to compare the Probable Maximum and Probable Minimum with the 90th and 10th percentiles ESP traces from the CBRFC.

The analysis suggests for the first year, the CBRFC should use the monthly rather than period methodology for their April through July forecasts. Additionally, for the second year the 24MS Most Probable, Probable Maximum, and Probable Minimum should be replaced with the 50th, 90th, and 10th percentile ESP traces from CBRFC, respectively. Finally, it is recommended that Reclamation change the language used in the 24MS to match the percentiles used and better reflect the forecasts.

The purpose of this peer review plan is to facilitate expert review of whether the analysis and recommendations are valid based on the results and reasonably improve reliability of the current forecast methods.

Impact of Dissemination:

The 24MS is an established modeling method for projecting future conditions in the Colorado River basin. Under current agreements that expire at the end of 2026, 24MS projections are used to make decisions regarding Lower Basin shortage, Lake Powell releases, and Drought Response Operations Agreement planning. Beginning in 2027, it is uncertain how the 24MS will be used to make operational decisions. The proposed recommendations do not significantly change the methods used by Reclamation but rather improve forecast reliability, provide more clarity in the methodology, and improve the descriptive language to better align with expected observations.

Because the analysis and recommendations result in potential changes in operations, Reclamation has determined that the approach to change the 24MS is considered influential scientific information and is submitting the analysis for peer review.

Peer Review Scope:

The subject of this review is to determine if the analysis and recommendations are reasonable, and should focus on if the methodology, metrics, and recommendations are aligned with the goal of improving forecasts in the Colorado River. Specifically, the reviewer will respond to the following questions:

Question 1: Is the analysis clearly explained and results properly interpreted?

Question 2: Are the recommendations supported by the results of the analysis?

Timing of Review:

The review period is expected March 23 – April 10, 2025. The final Peer Review Report is expected to be available on the Bureau of Reclamation Peer Review public website (http://www.usbr.gov/main/qoi/peeragenda.html) by May 8, 2025. No time deferrals are involved.

Methodology of Review:

The review will be conducted by two individuals, where comments will be left in the two technical reports. Reviewers are asked to leave comments in the word document. The identity of the reviewer will be disclosed on the report and in the final Peer Review Report posted to the peer review website. Review findings/comments will be attributed to the associated reviewer.

Number of Peer Reviewers:

Two internal Reclamation peer reviewers will review scientific information.

Reviewer Selection Process:

The peer reviewer(s) have professional experience in the field of hydrology forecasting and reservoir operations at a basin scale. They have not been directly involved in this research and analysis.

Delivery of Findings:

The peer reviewer(s) will submit a digital copy of peer review comments that address one or more of the supplied review questions. Comments should be submitted to the peer review lead.

Response to Peer Reivew:

After receiving the peer review comments, the peer review lead will submit a final Peer Review Report to Reclamation's peer review website (http://www.usbr.gov/main/qoi/peeragenda.html), which will summarize the findings of the peer review and list the comments provided by the reviewers, as well as author responses to all comments. The peer review lead will export the comments from the peer reviewers to a matrix to address each comment.

Federal Register Notice:

Federal Register notices will not be provided announcing the formation of a peer review team and completion of the final report.

Applicability of the Federal Advisory Committee Act (FACA):

This peer review is not subject to the Federal Advisory Committee (FACA) because the review does not involve open meetings or committee chartering and reviewers are being asked to provide individual reviews on the subject matter. Reclamation is not seeing consensus advice from the reviewers as a group.

Agency Contact:

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