

Via E-mail

March 13, 2026

Chair E. Joaquin Esquivel
State Water Resources Control Board
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joaquin.esquivel@waterboards.ca.gov

Dear Chair Esquivel:

Subject: Mono Basin Water Rights

I am writing to clarify the position of the Los Angeles Department of Water and Power (LADWP) on the anticipated Mono Basin water rights hearing, and to stress the importance of the continued availability of Mono Basin water, not only to the City of Los Angeles (City), but also to the State and American West. As the largest municipal utility in the country, LADWP provides the City's four million residents and businesses with safe, reliable, and cost-effective water and power in an environmentally responsible manner.

The Los Angeles Aqueduct supplies historically have been, and for the foreseeable future will remain, foundational to the City's water supply. These supplies are the most affordable, reliable, highest quality, and environmentally protected water source available to Angelenos.

Since the State Water Resource Control Board's (SWRCB) issuance of Decision 1631 in 1994, LADWP has reduced its water exports from Mono Basin by approximately 85% and its water exports from the Eastern Sierra by approximately 50%. To offset these losses, LADWP has made considerable investments in local water supplies and conservation. However, LADWP has also had to increase its purchases of imported water from the Metropolitan Water District (MWD). Purchased imports from the State Water Project (SWP) and Colorado River, on average, accounted for more than half of the City's water supply over the last 20 years.

As you are aware, the SWP and Colorado River are facing tremendous supply constraints and cannot always meet the demands placed upon them. Indeed, full allocation years to SWP contractors, such as MWD, “are rare with only one such allocation in the past decade in the extremely wet year of 2023.”¹ The current SWP allocation for 2026 is only 30%. The issues caused by the lack of sufficient SWP water are further exacerbated by MWD’s infrastructure capabilities which, as recently as 2022, resulted in MWD’s inability to deliver water to serve nearly seven million people in portions of Los Angeles, Ventura, and San Bernardino Counties. MWD imposed emergency water shortage allocations on LADWP and five other member agencies, and borrowed water from the State just to meet minimum human health and safety standards in several service areas. Ongoing legal, political, and environmental issues affecting the SWP and Colorado River are likely to further impact water supply availability and reliability. Moreover, MWD recently disclosed that treated water costs are forecasted to exceed \$3,100 per acre-foot by 2036. These costs will be passed onto LADWP ratepayers—more than half of whom live in disadvantaged communities—further putting pressure on affordability.

To reduce imported water purchases and secure L.A.’s water future, LADWP is investing billions of dollars in developing recycled water and stormwater capture programs. Currently, LADWP is constructing the \$930 million Los Angeles Groundwater Replenishment Project at the Donald C. Tillman Water Reclamation Plant with construction estimated to be completed by late 2027. Production and distribution of advanced treated water from the project beyond 20 million gallons per day, however, is still subject to several regulatory approvals, including SWRCB approvals, which could take years to obtain. LADWP also has partnered with the Los Angeles Bureau of Sanitation and Environment to develop the Pure Water Los Angeles program, with the goal of producing up to 210 million gallons of purified recycled water per day. The current estimated cost of implementing Pure Water Los Angeles is over \$26 billion. Additionally, LADWP is exploring other potential regional recycled water solutions.

LADWP and its ratepayers also remain committed to conservation as a way of life. LADWP customers have diligently developed and maintained their water-efficient habits, with water use dropping by 33% in the past 15 years as a result. Over the same period, water costs as a percentage of median household income have nearly doubled.

As LADWP has diversified its water supply portfolio and significantly increased its focus on local water, Mono Lake Committee and its supporters have intensified their efforts to eliminate LADWP’s Mono Basin exports and extinguish LADWP’s licensed water rights. They have lobbied for the SWRCB to take swift action without regard to the express terms of LADWP’s amended water rights licenses, well-settled public trust law, or scientific evidence. The SWRCB cannot and should not act without carefully considering

¹ “Get the Facts About the State Water Project Allocation,” Department of Water Resources, available at <https://water.ca.gov/News/Blog/2025/Jan-25/Get-the-Facts-About-the-State-Water-Project-Allocation> (Jan. 28, 2025).

the substantially improved condition of the Mono Basin, as well as the broader water reliability and environmental concerns.

LADWP's amended water rights licenses state:

In the event that the water level of Mono Lake has not reached an elevation of 6,391 feet amsl by September 28, 2020, the State Water Board will hold a hearing **to consider the condition of the lake and the surrounding area**, and will determine if any further revisions to this amended license are appropriate.² (Emphasis added.)

The underlined portion is not just surplusage: it is the analysis the Public Trust Doctrine requires. At the anticipated hearing, LADWP intends to show what is evident to the thousands of people who visit Mono Lake each year: Mono Lake is protected and its wetlands and freshwater tributaries are thriving, productive habitats.

LADWP also intends to show that eliminating or further reducing LADWP's exports is unlikely to hasten the lake's rise to 6,391 feet. Significantly, modeling recently undertaken at the request of the Mono Lake Committee, and in collaboration with the SWRCB, the California Department of Fish and Wildlife (CDFW), Kootzaduka'a Tribe, and CalTrout, shows that, on average, the lake will only rise four years faster if LADWP ceases its exports (22 years to transition without exports vs. 26 years to transition with exports). This is because hydrology—not LADWP's exports—is the primary driver of lake level.

Additionally, in accordance with the terms of its amended water rights licenses, LADWP is investing over \$50 million to modify the Grant Lake Dam to further improve 20 miles of creeks and fisheries habitats in streams tributary to Mono Lake. The stream flows and dam modifications were painstakingly considered and agreed upon by LADWP, SWRCB staff, CDFW, Mono Lake Committee, and CalTrout, and approved by the SWRCB in 2021, with the expectation that LADWP would retain the ability to export up to 16,000 acre-feet per year based on lake level elevation. This represents a mere 15% of LADWP's historical right.

Simply put, the protections the SWRCB put in place through Decision 1631 in 1994 and in subsequent orders, paired with actions LADWP has taken and investments LADWP has made, have been a success. Public trust values and the human need for water have been appropriately balanced. Mono Lake stands in stark contrast to all other saline lakes in the West—including the Salton Sea and the Great Salt Lake—that are declining in elevation and facing significant environmental issues.

² Amended License 10191, ¶ 9(d), p. 6; Amended License 10192, ¶ 9(d), p. 5.

Chair E. Joaquin Esquivel

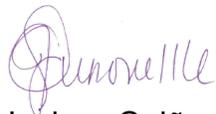
Page 4

March 13, 2026

For this reason alone, reducing or eliminating LADWP's Mono Basin water exports would be unwarranted, imprudent, and place undue financial burden on LADWP's ratepayers. This is even more evident when considering the broader water supply and water cost landscape and the unrelenting reliability issues that the SWP and Colorado River face.

LADWP appreciates the SWRCB's continued consideration of these important matters, and the related opportunity to address these issues as part of the SWRCB's informational item concerning Mono Lake modeling on March 17, 2026.

Sincerely,



Janisse Quiñones

Chief Executive Officer and Chief Engineer

c: Dorene D'Adamo, Vice Chair, State Water Resources Control Board
Laurel Firestone, Board Member, State Water Resources Control Board
Sean Maguire, Board Member, State Water Resources Control Board
Nichole Morgan, Board Member, State Water Resources Control Board
Wade Crowfoot, Secretary, California Natural Resources Agency
Meghan Hertel, Director, California Department of Fish and Wildlife
Yana Garcia, Secretary, California Environmental Protection Agency
Paul McFarland, Supervisor, Mono County
Geoffrey McQuilkin, Director, Mono Lake Committee
Charlotte Lange, Chair, Kutzadika'a Tribe
Sandra Jacobsen, Regional Director, CalTrout
Nancy Sutley, Deputy Mayor Energy and Sustainability, City of Los Angeles
Anselmo Collins, Chief Operating Officer & Sr. AGM – Water System, LADWP

March 12, 2026

Courtney Tyler, Clerk to the Board
State Water Resources Control Board
P.O. Box 100, Sacramento, CA 95812-2000
Via Electronic Mail: commentletters@waterboards.ca.gov

Subject: March 17, 2026, Board Meeting – Item #3 (Mono Lake modeling information item); Los Angeles Department of Water and Power’s Submission of Initial Comments – UCLA Mono Lake Model to California State Water Resources Control Board

The Los Angeles Department of Water and Power (LADWP) respectfully submits the attached summary of comments regarding the “UCLA Mono Lake Model (UCLA-MLM)” recently developed to simulate historical and future Mono Lake levels.

We look forward to a more technical exchange and validation process once the full modeling tools and datasets are made available for stakeholder validation.

Sincerely,



Adam Perez
Director of Water Operations Division

AA:fj
Attachment

UCLA-MONO LAKE MODEL: PRELIMINARY COMMENTS

1 Background

The State Water Resources Control Board (SWRCB) contracted with the Regents of the University of California, Los Angeles (UCLA) Center for Climate Science to evaluate hydroclimate projections across the Mono Basin and assess how climate change may impact water levels in Mono Lake. Based on the contract scope of work, SWRCB defined the overarching goal as follows:

“The main objectives of this project are to develop a hydrologic lake level model for Mono Lake. This project will result in study documentation as well as a modeling tool that Board staff can use to evaluate Mono Lake level scenarios. These tools and documentation are important for informing State Water Board actions to address existing and future drought conditions in the Mono Basin. The outcome of this effort will support the Board’s goals of balancing the protection of public trust resources and diversions from the basin, as well as to improve long-term drought resiliency of both the local communities and the water supply to Southern California.”

To accomplish this scope, UCLA developed the “UCLA Mono Lake Model (UCLA-MLM)”. The model integrates statewide hydroclimate datasets, hydrologic modeling outputs, and climate projections developed for California’s Fifth Climate Assessment (CA5) to simulate historical and future Mono Lake levels. The SWRCB only provided the Los Angeles Department of Water and Power (LADWP) with a draft report, describing the modeling framework and results. However, the underlying datasets, model code, assumptions, and supporting files have not yet been fully distributed. Further, it is worth noting that approximately one week before the scheduled March 17 Board meeting, a revised report on the UCLA-MLM was posted on the SWRCB website containing material changes to the draft report. This late disclosure provided LADWP with insufficient time to fully analyze the updates and, accordingly, LADWP reserves its right to provide additional comments on the revised reports, associated data, and model based on its further review. LADWP provides these comments based on its initial review of the modeling framework presented in the draft report (October 2024) including comments concerning the potential policy implications of the UCLA-MLM.

The UCLA-MLM collectively consists of three linked components:

1. **Extract Existing Data:** Existing Statewide hydroclimate datasets and model outputs developed for CA5 were extracted for the Mono Basin. Historical data (1951–2020) included the dynamically downscaled data from the European Center For Medium-Range Weather Forecasts Reanalysis 5th Generation (ERA5-WRF) dataset. Future projections were based on an ensemble of 11 Global Circulation Models (GCMs) (out of the 15 used in the CA5) evaluated under three Shared Socioeconomic Pathways (SSPs).

The dataset also included outputs from the Noah Multi-Parameterization (Noah-MP) hydrologic model, developed for gauged and ungauged basins across California (Mono Basin was ungauged / uncalibrated) to estimate runoff and other hydrologic variables under historical and projected climate conditions.

2. **Develop Mono Lake Water Budget Model:** An annual water budget model was developed to translate hydroclimate conditions and future climate scenarios into historical and projected changes in Mono Lake storage through 2100. Hydroclimate data and results from Statewide modeling efforts were compared to local station data and found to differ. To reduce these biases, a series of iterative adjustments were applied in stages: (1) Mean-state bias correction of precipitation and runoff, (2) Scaling evaporation results, (3) Scaling GCM results, (4) adjusting ungauged runoff, (5) Mono lake storage regression correction, and (6) Additional readjustments were made to runoff bias terms and unregulated flows. These adjustments were applied in an attempt to force modeled results to match observed historical Mono Lake levels.
3. **Assess Policy Alternatives:** A python code-based tool was developed to evaluate different policy alternatives using the water budget model (2, above). Changes in export scenarios were evaluated relative to “time to transition” and were compared to historical conditions and wrapped run methods. To date, LADWP has not received a copy of this tool.

2 Main Comments and Associated Questions

2.1 Policy Implications

The report suggests that the UCLA-MLM model can be used for policy decisions in the Mono Basin. LADWP is concerned that several key assumptions create significant variability in model results and, within a regulatory context, warrant further examination and discussion. Accordingly, we request that the SWRCB provide guidance on how it intends to apply climate science and hydrological modeling in making water rights and policy decisions. In particular, we request SWRCB’s guidance on the following:

- Selection and application of climate models: has the SWRCB prepared, or does it intend to prepare, guidance regarding the appropriate selection and use of GCMs for watershed-scale analysis, particularly for unique or atypical systems such as the Mono Basin?
- Standards for data, modeling, and decision processes: what statewide standards or expectations do the SWRCB recommend for data sources, model development practices, documentation, peer review, and methodologies transparency to support consistent and defensible regulatory decisions?
- Model performance metrics: what metric does SWRCB recommend for evaluating model performance, accuracy, and uncertainty when models are used to compare alternative management or policy scenarios?
- Scientific rigor and stakeholder involvement: what processes does SWRCB intend to utilize to ensure transparent scientific review, including external multi-disciplinary expert review, and meaningful stakeholder engagement when models are used to support regulatory decision?

- Treatment of uncertainty: how should uncertainty arising from climate projections, data limitations, assumptions, and model structure be quantified, communicated and incorporated into regulatory decision-making?
- Adaptive framework for integration of new data as it becomes available: we request that any guidance or policy framework used by the SWRCB remain adaptive. Frameworks should be constructed to accommodate additional data, new technology, and improved understanding, thereby continuing to reduce uncertainty and improve model performance and confidence.
- Recognizing interconnected statewide water challenges: Water resources challenges across California are interconnected. The Bay-Delta, Colorado River, groundwater basins, and local supplies do not operate in isolation. This means that policy and changes in one component of the interconnected system inevitably influence the others. This interconnectedness underscores the need for coordinated, science-based, and statewide water-management policies.

2.2 Model Development Process

The UCLA-MLM report is highly technical and represents a scientifically novel modeling exercise with the goal of evaluating potential future climate change impacts on the Mono Basin. Importantly, the ULCA-MLM report evaluated policy scenarios that have a direct impact on LADWP's exports and water rights. An appropriate level of review for a report of this magnitude takes time and requires not only a range of scientists, hydrologists, and modelers with specific experience and expertise, but it also requires access to the model (including sub-models) as well as all input data, empirical correction terms, and any/all associated files. Importantly, evaluation requires access to the UCLA modelers and technical team to clarify approach, review each assumption (including rationale and justification), as well as interpretation of results. Review also requires interaction and dialogue, not only with modelers, but with Board staff and stakeholders on approach, uncertainty, and implications on policy decisions.

- We request that the SWRCB make every effort to provide transparent access to the modelers, underlying data, models, and assumptions and, most importantly, provide the time needed to allow for a thorough review of this work product.

Authoritative Model Development: While the UCLA-MLM report is highly technical, we question whether the model development process conforms to the standards of an authoritative model used to inform decisions potentially impacting water rights. For example, in a watershed-scale hydrologic modeling exercise (where policy decisions and water rights are evaluated), careful attention is given to model selection, input data evaluation, model development, algorithm selection, model calibration, independent validation, and external expert peer review (CWEMF, 2021). Based on the technical documentation provided to LADWP, there appears to be significant gaps in the authoritative model development process. These include limited justification and documentation regarding model selection, calibration of original model with site specific data, selection of atmospheric and hydrological physics algorithms appropriate for the Mono Basin, and independent validation using observational data to objectively evaluate uncertainty in model results and their applicability for policy decisions.

- What is the SWRCB’s plan for soliciting input, review, and comments on the model development process?
- Will the modelers and technical team be available to provide technical clarifications regarding model structure, assumptions, and interpretation of results?
- Will the UCLA-MLM, all submodules, data, statistical correction factors, assumptions, and associated electronic files be made available to LADWP and the public?
- Will a technical modeling group (multi-stakeholder) be commissioned and led by the SWRCB to work collaboratively on future model improvements and enhancements that address stakeholder comments?
- Will the UCLA-MLM be externally expert peer reviewed? If so, will the SWRCB commit to a review framework consistent with established federal peer-review standards such as the EPA Peer Review Handbook (EPA, 2015) or the OMB Information Quality Bulletin for Peer Review? Given the complexity of the model and its use in evaluating specific policy alternatives, we do not believe that standard journal manuscript review alone provides a sufficient level of technical scrutiny. A structured external review process, such as an independent expert panel, technical advisory committee or National Academies-style review (Fleenor, 2016; Water Temperature Model-Review Panel, 2023), may be necessary to fully evaluate model structure, calibration, uncertainty, and policy scenario performance.

2.3 Water Budget Model Development and Inputs

2.3.1 Mono Basin Hydrology

It is important for SWRCB staff, board members, and stakeholders to understand that this modeling exercise used an existing hydrologic model that was originally developed as part of the CA5 statewide climate assessment for California (Bass B. et al. 2023) but is applied here to evaluate a local watershed-scale water budget. This scale mismatch introduces additional uncertainty because the ERA5-WRF + Noah-MP framework operates at 3-km grid resolution (9 km² per grid cell) which limits the ability to resolve the strong orographic precipitation gradient, elevation-dependent snow accumulation and small headwater catchment characteristics of the Sierra Nevada tributaries that feed Mono Lake. In the statewide hydrologic modeling effort, Mono Basin was treated as an “ungauged” basin, meaning it was not parameterized with site specific data, locally calibrated, or independently validated using basin observations. There is no documented effort to improve the performance of the original ERA5-WRF or Noah-MP models prior to using the results in the Mono Basin water budget. What this means is that the UCLA-MLM is underpinned with a hydrologic model that was developed at a statewide scale, and was never independently optimized, calibrated, or validated to local conditions. Importantly, a series of significant post-modeling correction factors were used to force model results in an attempt to reflect local data and/or assumptions. The post-modeling empirical factors were embedded into the Mono Lake water budget, which was then subsequently used to predict Mono Basin hydrometeorology and Mono Lake level response to climate change to evaluate management policy scenarios. The report’s representation of the

UCLA-MLM as a physics-based model is overstated, given the significant statistical and empirical “correction factors” used throughout the process.

- Is the SWRCB planning to further improve the accuracy, reliability, and resolution of the hydrologic variables used in the UCLA-MLM? Without additional basin-specific calibration, validation, and evaluation of model uncertainty, the modeling framework may function primarily as a coarse screening-level tool rather than a high-confidence basis for basin-scale water budget and policy analysis. LADWP would support a detailed model review, exploration of uncertainty, and discussion on potential improvements to model performance and reliability as it relates to the policy scenarios evaluated in the report.

2.3.2 Mono Lake Evaporation

Evaporation from Mono Lake is the single largest term in the water budget, estimated at ~45% of lake outflow, with significant but unquantified uncertainty (UCLA-MLM Report, Vorster 1985). The SWRCB explicitly requested that UCLA: “Assess the impacts on Mono Lake’s water levels, with an emphasis on evapotranspiration from the lake itself.” Reasonable approaches could have included direct measurement, refining the CA5 model, or sensitivity analyses. Instead, this modeling exercise scaled the raw CA5 evaporation estimate of ~24–25 inches/year by ~1.9 to 46.5 inches/year to match literature values and close the water budget, without addressing underlying model physics. Such a large adjustment indicates potential flaws in atmospheric forcing, surface energy representation, or evaporation formulation for this hypersaline terminal lake.

- Given that the physically based estimates of evaporation failed, what other methods were considered for estimating evaporation from Mono Lake during the project?
- Were alternative approaches evaluated (e.g., energy balance methods, observational studies, sensitivity analyses)?
- How were historical evaporation estimates selected as reference values for adjustment?
- Does SWRCB anticipate additional work to refine evaporation estimates for Mono Lake, given the importance of this variable in the lake water balance?

Because evaporation represents a dominant component of the lake water budget, robust and accurate estimation of this process is required to reduce the uncertainty in model results.

2.3.3 Runoff and Storage

In the UCLA-MLM, several major components were adjusted: runoff from ungauged areas was scaled using a factor of 0.51 to match observed lake levels, runoff from Lee Vining, Walker, Parker, and Rush Creeks was corrected with a single multiplicative factor without full hydrologic calibration, and a linear regression on simulated lake storage was applied to correct residual dry/wet biases. Together, these adjustments, applied to inflows, outflows, and storage, transform the framework from a process-based hydrologic model into a statistically constrained accounting model. Given these corrections, we seek guidance from SWRCB on key considerations:

- Are these adjustments adequate to ensure the model can address extreme events that deviate from historic conditions?
- How can the model structure maintain fidelity under non-stationary, changing climate conditions?
- Should differential split-sample testing be applied to verify parameter transferability between wet and dry periods?
- How can model users ensure that parameters are not over-fitted to historical observations, potentially compromising projections under future scenarios?

2.3.4 Climate Projection Methodology

Future hydroclimate conditions in the UCLA-MLM are derived from an ensemble of GCMs evaluated under several greenhouse-gas emissions scenarios. While a subset of GCMs was selected for the Mono Lake investigation based on their performance across California (Krantz et al., 2021), their specific reliability within the Mono Lake basin remains unverified. Climate projections inherently contain uncertainty, particularly when applied to watershed-scale hydrologic analyses.

- How were the GCMs selected for inclusion in the Mono Basin analysis?
- Were any basin-specific performance evaluations conducted for these GCMs?
- How should decision-makers interpret differences among climate projections within the ensemble?
- Does the SWRCB have guidance regarding how climate model uncertainty should be incorporated into policy evaluation?

Clarification on these issues would help stakeholders understand how the modeling framework is intended to inform long-term planning.

2.3.5 Model Accuracy

The UCLA-MLM does not explicitly quantify the accuracy, precision, or resolution required to evaluate diversion policy scenarios, which range from 1,500 to 16,000 ac-ft (volumes equivalent to less than 1–3 inches of lake elevation). In contrast, the model’s structural uncertainty, empirical corrections to evaporation, ungauged and gauged runoff, and storage adjustments result in a reported accuracy (1994 to 2019) of roughly 0.5 ft (~22,000 ac-ft storage), and entire evaluation period accuracy (1971-2019) of 0.73 ft (~33,000 ac-ft storage). Consequently, the modeled lake levels for policy evaluation fall well within the model’s inherent uncertainty, raising concerns about the reliability of conclusions regarding alternative export policies and recovery projections. While the authors provide future hydroclimate scenarios and sensitivity analyses, the divergence between diversion magnitudes and model resolution suggests that these outputs may reflect noise rather than physically meaningful signals. Given that policy impacts fall well within the current model’s error range, the SWRCB should carefully consider whether the model’s accuracy, resolution, and structural assumptions are sufficient to support decisions. In particular, the Board may want to ask:

- How can a model with ~0.73 ft (~33,000 ac-ft) accuracy reliably assess policy scenarios smaller than this range?

- What minimum resolution, accuracy, and precision should be required for evaluating small diversion impacts?
- Should alternative model structures or physics-based approaches be adopted to reduce reliance on empirical corrections?

3 Initial Comments on Newly Released Final Report

Days before the scheduled March 17 Board meeting, a revised report on the UUCLA-MLM was posted on the SWRCB website, separate from the meeting agenda. The SWRCB did not provide LADWP with this updated version. The timeframe available to review the final document has been insufficient to fully analyze the updates made after the draft version that was previously shared with stakeholders. Nonetheless, a preliminary review indicates that the revised report does not substantially deviate from the conceptual approach used in the earlier draft. The modeling framework continues to rely on the same methodology of existing CA5 datasets, applying bias-correction factors, scaling adjustments, and additional error terms to reconcile model outputs with observed lake levels. Based on a cursory review, we highlight a few important comments and related questions below:

New Water Budget Components: The final report added a new water-budget component (a groundwater export term) by explicitly integrating a constant outflow of 5,500 ac-ft/year to represent groundwater intercepted by the Mono Craters Tunnel. This value was incorporated into the “Default” model and was also applied to the “No Export” scenario. The report does not cite any externally/ peer reviewed scientific or empirical source for the 5,500 ac-ft/year estimate. Furthermore, the sensitivity tests presented in the Appendix indicate that removing the groundwater export term forces the model to assume an even higher long-term average evaporation rate to close the water budget. This raises concerns about the robustness of the water budget closure and how sensitive the model is to unverified water budget components.

- How was the 5,500 ac-ft/year value derived? Can the data source, measurement method, hydrologic calculation, groundwater model, or scientific publication supporting this estimate be provided.
- What additional analyses, if any, were conducted to better quantify the groundwater component?
- Our understanding is that Noah-MP’s runoff output may already integrate both surface runoff and base flow as part of its output files in the CA5 datasets. If the model already produces a combined runoff term, and the authors then add an external 5,500 ac-ft/year groundwater export term, does this result in double counting groundwater losses?

Continued Changes to Mono Lake Evaporation and Runoff: Mono Lake evaporation rate increased from 46.5 inches in the draft report to 47.25 inches in the updated report. In addition, the ungauged runoff adjustment factor was modified from approximately 0.51–0.52 to 0.58, representing a notable change in the empirical scaling applied to account for ungauged tributary inflows.

- The evaporation estimate process used in this report continues to be a major concern for LADWP. Evaporation is the largest component of the water budget and is not well constrained by methods employed in the report. We continue to question this approach (Consistent with the questions in Section 2.3.2

Historical reduction in Mono Lake elevation attributed to climate change: The final report states that “...since the 1950s, climate change alone is responsible for roughly a 2.6 ft reduction in the 2024 lake level, ...”.

- How can this conclusion be supported when the estimate carries a 6-ft standard deviation and the GCMs do not agree? Using this statement as the basis for Key Finding #1 – “Climate change has already had an impact on Mono Lake’s water budget” – appears inconsistent with the large uncertainty and lack of model consensus.
- A more robust approach would be to analyze measured (or model-derived) observational datasets to identify actual historical trends. If the bias-corrected ERA5–WRF historical estimates show no clear trend, while the GCMs do—and the two disagree for the historical period—how can future climate-change projections and their impacts on Mono Lake levels be considered reliable?

Considering these updates, we reiterate our request that the SWRCB make every effort to ensure transparent access to the modelers, underlying data, modeling framework, and assumptions used in the UCLA-MLM. Most importantly, adequate time should be provided to allow for a thorough and independent technical review of this work product. Any scientific analysis that may ultimately inform policy decisions should follow a transparent and established peer-review process. Conclusions should not be drawn solely based on the report or the claims presented therein without providing stakeholders with sufficient opportunity to review, evaluate, and understand the underlying methodology and assumptions.

Based on these comments and concerns, the UCLA-MLM should not be used or relied upon by the SWRCB in its decision-making until the identified issues and concerns have been comprehensively addressed.

4 References

- Bass, B., S. Rahimi, N. Goldenson, A. Hall, J. Norris, and Z. J. Lebow. 2023. Achieving Realistic Runoff in the Western United States with a Land Surface Model Forced by Dynamically Downscaled Meteorology. *J. Hydrometeor*, 24, 269–283, <https://doi.org/10.1175/JHM-D-22-0047.1>.
- Bass, B., L. Su, D. Lettenmaier. 2023. Data Adoption Justification Memo (for California’s Fifth Climate Change Assessment): Hydrology Projections. Available online: https://www.energy.ca.gov/sites/default/files/2025-04/05_HydrologyProjections_DataJustificationMemo_BassEtAl_Adopted_v3_ada.pdf
- Bass, B., S. Graves, E. Dennis, A. Hall. 2024. Development of a Mono Lake Water Level Model and Projections across the 21st Century. Center for Climate Science, University of California, Los Angeles. October.
- California Water & Environmental Modeling Forum (CWEMF). 2021. *Protocols for Water and Environmental Modeling*. Sacramento, CA, USA. Available online: <https://cwemf.org/wp/wp-content/uploads/2021/11/Modeling-Protocols-Report-Final-11-19-2021.pdf>
- Fleenor, W.E., S. Sandoval-Solis, D. Sereno, L.E. Condon, and J.H. Viers. 2016. Independent Peer Review of the Sacramento Water Allocation Model (SacWAM): a Report to the Delta Science Program. Delta Stewardship Council, Sacramento, California. 31 pp. Available online: https://watermanagement.ucdavis.edu/download_file/view_inline/426
- Krantz W., Pierce D., Goldenson N., and Cayan D. 2021. Memorandum on evaluating global climate models for studying regional climate change in California. California Energy Commission. Available online: https://www.energy.ca.gov/sites/default/files/2022-09/20220907_CDAWG_MemoEvaluating_GCMs_EPC-20-006_Nov2021-ADA.pdf
- U.S. Environmental Protection Agency. 2025. Peer Review. Available online: <https://www.epa.gov/scientific-leadership/peer-review>. May.
- Vorster, P. 1985. A Water Balance Forecast Model for Mono Lake, California. A Thesis Presented to the Faculty of California State University, Hayward in partial fulfillment of the requirements for the degree M.A. in Geography. May.
- Water Temperature Model Development Independent Review Panel, Final Report, 2023. Available online: <https://deltacouncil.ca.gov/delta-science-program/water-temperature-model-development-independent-advisory-panel>.