Colorado River Board of California

EXECUTIVE DIRECTOR'S REPORT TO THE COLORADO RIVER BOARD OF CALIFORNIA

March 13, 2024

COLORADO RIVER BASIN WATER SUPPLY CONDITIONS REPORT

As of March 11, 2024, the water surface elevation of Lake Powell was 3,560.99 feet with nearly 7.86 million-acre feet (MAF) of storage, or 34% of capacity. The water surface elevation of Lake Mead was 1,076.32 feet with 9.71 MAF of storage, or 37% of capacity. As of March 11th, the total System storage was 24.78 MAF, or 42% of capacity, which is about 5.96 MAF more than the total System storage at this time last year.

As of March 5th, storage in the Upper Basin reservoirs, excluding Lake Powell, included the following volumes: 36% of capacity at Fontenelle Reservoir in Wyoming; 85% of capacity at Flaming Gorge Reservoir in Wyoming and Utah; 96% of capacity at Morrow Point and 68% of capacity at Blue Mesa Reservoir in Colorado; and 65% of capacity at Navajo Reservoir in New Mexico.

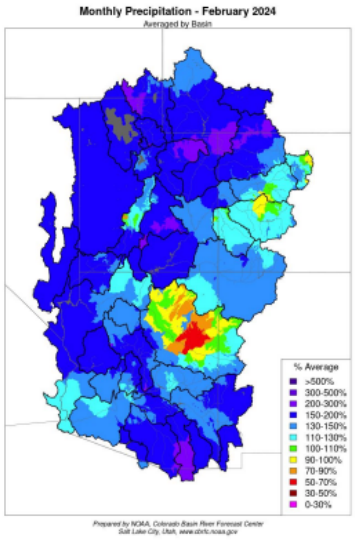
As of March 5th, February observed inflow into Lake Powell was 0.35 MAF (95% of normal) and the March inflow forecast was 0.46 MAF (77% of normal). The forecasted inflow into Lake Powell for WY-2024 was 7.66 MAF (80% of normal). The forecasted April through July 2024 unregulated inflow into Lake Powell was 5.0 MAF (78% of normal). The precipitation to date was 101% of normal and the current Basin snowpack was 104% of normal.

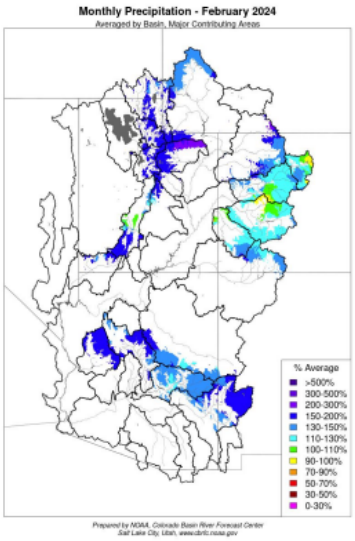
Colorado Basin River Forecast Center Water Supply Webinar

On March 7th, the Colorado Basin River Forecast Center (CBRFC) held a webinar to review the Basin's current water supply conditions and forecasts. CBRFC reported that precipitation conditions in February were above average throughout most of the basin, except for a few areas that experienced normal to below normal precipitation conditions. Figure 1 shows the February precipitation conditions for the entire Colorado River Basin including precipitation conditions for regions that contribute most of the spring runoff (middle image).

February 2024 Precipitation Summary

February precipitation was above normal across most of the region, and ranked in the wettest five on record at a number of SNOTEL sites across the UCRB.





Water Year 2024 CBRFC Precipitation (Major Contributing Areas) Percent of 1991-2020 Average		
UPPER COLORADO RIVER BASIN		
	Feb	Oct-Feb
Above Lake Powell	137	96
Green River Basin		
Above Fontenelle	137	92
Above Flaming Gorge	153	99
Yampa/White	154	108
Duchesne	199	102
Price/San Rafael/Dirty Devil	154	104
Colorado River Headwaters		
Above Kremmling	112	95
Eagle	129	103
Roaring Fork	114	98
Above Cameo	118	98
Southwest Colorado		
Gunnison	114	95
Dolores	127	83
San Juan	138	82
LOWER COLORADO RIVER BASIN		
Virgin	154	83
Little Colorado	144	79
Verde	161	74
Salt	139	82
Upper Gila	163	88

Figure 1: February 2024 Precipitation Summary

Compared to February 1st, March 1st snow water equivalent (SWE) conditions have greatly improved and are now near normal in many areas. In the Upper Colorado River Basin, SWE conditions are 85% to 115% of normal, with similar SWE conditions in the Lower Colorado River Basin (80% to 115% of normal).

The forecasts for April to July runoff in the Upper Colorado River Basin have improved due to precipitation gains in February and early-March, especially in the central areas of the Colorado River Basin. The water supply forecasts in the northern and southern portions of the Colorado River Basin are below normal. In the Lower Colorado Basin, water supply forecasts are below normal due to poor antecedent soil conditions and drier than average El Niño precipitation conditions.

El Niño conditions continue to persist, but there are increased odds that La Niña conditions are expected to develop by the summer. El Niño conditions have been associated with wetter conditions across the Lower Colorado Basin. Precipitation conditions were below average in December and January but increased in February and March.

Weather models forecasted active weather during the first week of March. The 8-14 day Precipitation and Temperature Outlook by the Climate Prediction Center, predicted increased chances of below average precipitation in the northwestern basin, above average precipitation in the southeastern basin, and above average temperatures in western Arizona and Utah.

COLORADO RIVER BASIN PROGRAM UPDATES

Colorado River Basin Federal, State, and Tribal Updates

Reclamation Releases Final SEIS for Near-Term Colorado River Operations

On March 5, 2024, Reclamation released its final supplemental environmental impact statement (Final SEIS) for "Near-Term Colorado River Operations." The purpose of the Final SEIS was to identify alternatives and analyze impacts associated with updating the current interim operating guidelines for the coordinated operation of Glen Canyon and Hoover Dams through 2026. Reclamation expects to issue a Record of Decision associated with this Final SEIS for the Near-Term Colorado River Operations through 2026 in the coming weeks.

The Final SEIS identified a preferred alternative (also referred to as the "proposed action") that includes the consensus-based Lower Basin Interim Period Plan adopted in May 2023 that will provide up to 3.0 MAF of system water conservation savings through the end of 2026. Many of the activities related to creating these proposed system conservation contributions from Lower Basin water users are funded through the Inflation Reduction Act (i.e., "Buckets 1a and 1b"). Up to 2.3 MAF of the Plan's total 3.0 MAF of system conservation contributions could be federally compensated through the Inflation Reduction Act.

The Final SEIS preferred alternative also identified proposed modified operations at both Glen Canyon and Hoover Dams. With respect to Glen Canyon Dam operations, the preferred alternative would allow for reducing releases from the dam to as low as 6.0 MAF if Lake Powell is projected (minimum probable projection) to decline below 3,500' at any point in the following 12 months. Proposed modified Lake Mead operations would include the proviso that if a minimum probable projection indicated that Lake Mead's elevation could decline below 1,025', that the Lower Basin States would have 45 days to provide Reclamation with an acceptable plan to protect Lake Mead from declining below 1,000'.

The results of the updated modeling in the Final SEIS indicated that the risk of reaching critical elevations in either large reservoir remains low. The chance of falling below critical elevations in Lakes Powell and Mead are about 8% and 4%, respectively, through the end of 2026.

The original Draft SEIS (April 2023) Action Alternative 1 (reductions in use based upon the "Priority System") and Action Alternative 2 (based upon pro rata out-of-priority reductions in use) were eliminated from further consideration and analysis in the Revised Draft SEIS released in October 2023. The rationale for that action by Reclamation was its adoption and evaluation of the May 2023 Lower Basin Interim Period Plan in the Revised Draft SEIS.

Finally, in conjunction with the release of the Final SEIS, Reclamation announced three new System Conservation Implementation Agreements in California that will conserve water in Lake Mead and contribute to the Lower Basin Interim Period Plan. These three agreements include:

- Bard Water District, in cooperation with The Metropolitan Water District of Southern California: This agreement commits up to 18,090 acre-feet of conserved water through 2026.

- Coachella Valley Water District: This agreement commits up to 30,000 acre-feet of conserved water through 2026.

- Palo Verde Irrigation District, in cooperation with The Metropolitan Water District of Southern California: This agreement commits up to 351,063 acre-feet of conserved water through 2026.

In total, there are 24 conservation agreements across California and Arizona that are expected to conserve up to 1.58 MAF of water through 2026, with an investment of just over $670 million from the Inflation Reduction Act.

Proposed Northeastern Arizona Indian Water Rights Settlement Agreement

A proposed Indian water rights settlement agreement has been developed for three Native American Tribes in northeastern Arizona, including the Navajo Nation, and the Hopi and San Juan Southern Paiute Tribes. The settling parties include the three Tribes, the State of Arizona, and many non-Indian parties involved in the Little Colorado River general stream adjudication. The proposed settlement agreement would include sources of water supply within the State of Arizona from the Upper Colorado River Basin, Lower Basin mainstream supplies, Little Colorado River Basin, Gila River Basin, and local surface and groundwater resources.

Significant elements of the proposed settlement agreement include a reallocation of portions of Arizona's Upper Colorado River Compact annual apportionment of 50,000 acre-feet to the Navajo

Nation and Hopi Tribe. For the Navajo Nation, the proposed settlement agreement would allocate 44.7 KAFY to the Navajo Nation from Arizona's Upper Basin apportionment. The Hopi Tribe would receive 2,300 acre-feet per year from Arizona's Upper Basin apportionment. Both Tribes would receive minor volumes of Arizona's Priority 4-6 unallocated Lower Basin apportionment of mainstream water. Finally, the Tribes would be allocated specified annual volumes of local surface and groundwater resources for diversion and use.

Subject to congressional authorizations and funding, the proposed settlement agreement contains a number of capital improvement and infrastructure projects to develop these new sources of water supply for the Tribes. The three Tribes and the U.S. anticipate the need for federal legislation for the water supply development projects as well as providing authorization for the Tribes to enter into inter-basin transfers and leasing of water supplies to other water users within the State of Arizona. A summary of the proposed settlement agreement, prepared by the Navajo Nation, will be provided in the hand-out materials at the Board meeting.

Post-2026 Colorado River Operations Development Process

Reclamation initiated its NEPA process for post-2026 Colorado River operations in June 2023, and since that time the seven Basin states have worked to develop a consensus-based operational alternative that could be analyzed as part of the process. California's Colorado River water users held several focused workshops and meetings to develop core principles and elements that should be included in the next set of operating guidelines. Additionally, over the course of the late-summer and fall, the three Lower Basin states met frequently to develop a consensus-based Lower Basin alternative. This was shared in a multi-day workshop in the fall with the four Upper Basin states. Unfortunately, after multiple meetings of the seven states, a consensus alternative could not be agreed upon by the early-March 2024 alternative submittal date.

On March 5, 2024, the four Upper Division States (Colorado, New Mexico, Utah, and Wyoming) provided a proposed alternative for modeling and assessment by Reclamation's Post-2026 EIS team. The Upper Division States' alternative contains several core elements, including: (1) Lake Powell Operations; (2) Lake Mead Operations; (3) characterization of the "No Action Alternative"; (4) term of Post-2026 Operations; (5) characterization of Upper Basin "Hydrologic Shortages"; and (6) discussion of "Parallel Activities". The Board packet includes the full alternative package submitted by the Upper Basin states.

On March 6, 2024, the Lower Basin states submitted their alternative to Reclamation for modeling and analysis. While many of the core elements in the Lower Basin submittal are similar to those described in the Upper Basin alternative, there are significant differences in the two

approaches. The Lower Basin alternative core elements include: (1) utilization of "total system contents" in making annual reservoir operating decisions; (2) implementation of Lower Basin annual water use reductions that address the Lower Basin "structural deficit" under most reservoir conditions; (3) implementation of Basinwide water use reductions under low reservoir conditions; (4) proposed Glen Canyon Dam operations based on combined Colorado River Storage Project (CRSP) storage and Upper Basin depletions; and (5) continued and/or expanded opportunities for water conservation and storage to further protect the reservoir system, including long-term investments in conservation and augmentation activities. The Board packet also includes the full package of the alternative's materials that was submitted to Reclamation.

In a side-by-side comparison, there are substantive differences between the two alternatives. These differences include the following:

- The Upper Basin's alternative utilizes the combined active reservoir storage of Lakes Powell and Mead to determine Lower Basin reductions. The Lower Basin approach utilizes the combined active reservoir storage in the entire reservoir system (i.e., Colorado River Storage Project Act Initial Units, and Lakes Mead, Mohave, and Havasu) to determine reductions in both the Upper and Lower Basins.

- The Upper Basin alternative attributes up to 3.9 MAFY of reductions solely to the Lower Basin states and does not include reductions to the Upper Basin. The Upper Basin alternative briefly describes a set of "parallel activities" in the Upper Basin that could boost Lake Powell levels, but stated that these fall outside of the post-2026 NEPA process or the Upper Basin alternative. The Lower Basin plan includes reductions of up to 1.5 MAFY to the Lower Basin States and Mexico under most reservoir conditions. If system contents declines, the Lower Basin proposal would evenly split reductions beyond 1.5 MAFY between the Upper and Lower Basins, up to a combined total of 3.9 MAFY (maximum Lower Basin reductions of 2.7 MAFY and maximum Upper Basin reductions of 1.2 MAFY).

- The Upper Basin alternative would start reductions in the Lower Basin at high reservoir levels: 90% of combined Powell and Mead storage (defined as live storage below flood control, excluding 8.7 MAF of protection volumes). Reductions would reach 1.5 MAF at 70% of storage, then increase up to 3.9 MAF total below 20% storage. The Lower Basin alternative calculates system storage differently, utilizing total live storage in Upper and Lower Basin reservoirs, without excluding flood control or protection volumes. Lower Basin reductions would ramp up from 0-1.5 MAFY from 69%-58% of total system contents. Reductions would be constant at 1.5 MAF from 58%-38% of total system

contents. From 38% to 23% of total system contents, the Lower Basin alternative calls for reductions ramping to 3.9 MAF, with volumes above 1.5 MAF divided between the Lower and Upper Basins.

- Both alternatives eliminate the use of forecasts to make operational determinations. The Upper Basin proposal would set operations the following year based on actual October 1 elevation and/or storage of Lakes Powell and Mead. The Lower Basin proposal would determine reductions based on the actual total storage on August 1 and Lake Powell releases based on actual CRSP storage on October 1.

- The Upper Basin alternative specifies Glen Canyon Dam annual releases to Lake Mead based upon the percentage of active storage contained in Lake Powell. The Lower Basin approach utilizes an annual release determination based upon a combination of CRSP active system contents and the Upper Basin depletions (i.e., consumptive uses + evaporation) in the previous three years. If Upper Basin water uses decrease due to aridification or "hydrologic shortages", annual releases from Glen Canyon Dam would decrease as well.

According to recent information from Reclamation, it is anticipated that Reclamation's Post-2026 EIS team will begin to model and assess the performance of all of the alternatives received from various stakeholders across the Basin over the coming weeks. Reclamation also anticipates that its technical staff may be reaching out and requesting clarification and additional information as it configures the modeling tools in the evaluation and assessment process.

While this was an important milestone in the Post-2026 NEPA process, much work remains to be accomplished before a draft EIS can be released by Reclamation in December 2024. This includes continuing to develop and achieve consensus support from all stakeholders in each of the states, allocation of reductions in use within our states, development of additional criteria for conservation and storage activities, continuing to develop and refine important operational elements with our Lower Basin colleagues, as well as seeking support from the Upper Basin states, Basin Tribes, non-governmental organizations, and in the upcoming binational process with Mexico. We are also continuing to coordinate and communicate with California's state leadership and our congressional delegation as this post-2026 process moves forward.

On March 11, 2024, a coalition of sixteen Native American Tribes, including ten from the Lower Basin, submitted a letter to Reclamation Commissioner Camille Calimlim Touton, providing a description of ". . . key principles that must be adhered to if the United States, as our trustee, and the Basin States expect our support of any proposed or preferred alternative for the Post-2026

Guidelines." A copy of the Tribes' letter will be provided in the handout materials at the Board meeting on March 13th.

The Tribal coalition indicates an expectation that these key principles will be addressed and incorporated into "whatever alternatives emerge during the Post-2026 EIS process, recognizing that some of the principles may require additional action outside of the Post-2026 EIS process and Post-2026 Guidelines."

The three Key Principles described in the Tribal coalition letter include the following:

1. To meet its trust responsibility to Basin Tribes, the United States must take actions to actively protect Tribal water rights (irrespective of whether they have already been finally quantified – hereinafter referred to collectively as "Tribal Water Rights").

2. Empower Tribes to determine how and when to use their water rights by adopting and supporting a portfolio of flexible tools.

3. Provide for a permanent, formalized structure for Tribal participation in implementing Post-2026 Guidelines, and in any future Colorado River policy and governance.

The letter contains additional details regarding each of these key principles, addressing issues related to the following: water rights protection, firming, and mitigation; identification of potential impacts to both quantified and unquantified tribal water rights in the Basin; development of flexible water resources management tools (e.g., conservation, storage, accounting, leasing or otherwise marketing water supplies for use off-Reservation, etc.); and a basinwide governance structure and decision-making process going forward that fully includes Tribes.

<u>Status of the Colorado river Salinity Control Program</u>

The Salinity Control Forum Work Group (Work Group) held a hybrid meeting with in-person attendance in San Diego March 3rd-5th.

Testing of the Paradox Valley Unit is ongoing. The most recent six-month injection test period began on December 1, 2023. An updated seismic risk analysis is tentatively scheduled for late 2024. In calendar-year 2023, 53,257 tons of salt were disposed of via the Paradox Valley Unit.

Potential bipartisan legislation regarding funding for the salinity program continues to move forward. Representative John Curtis (R, UT) is seeking co-sponsors and preparing to introduce the legislation in the House. The Colorado River Basin Salinity Control Forum has worked closely with Reclamation and the Natural Resources Conservation Service to identify the least-disruptive way to fix the salinity control funding imbalance. The goal is to adjust the non-reimbursable and reimbursable percentages in just a few places while leaving the remaining funding arrangements untouched. The proposed fix has two parts:

1. Reduce the reimbursable portion in the NRCS EQIP program from 30% to 15%. This change would reduce the up-front cost-share and pool of salinity control dollars available to the Program from the Lower Basin Fund by approximately $3.1 million annually. Federal appropriations would remain the same.

2. Reduce the reimbursable portion of operations and maintenance on three Reclamation projects. This change would reduce the draw on the Lower Basin Fund by about $1.2 million annually with a commensurate increase in Reclamation O&M funding.

The Work Group, Colorado River Basin Salinity Control Forum, and the Colorado River Basin Salinity Control Advisory Council will be meeting in Durango, Colorado the week of June 3rd.

Glen Canyon Dam Adaptive Management Program

The Glen Canyon Dam Adaptive Management Program (GCDAMP) held its Annual Reporting Meeting January 23rd – 24th, Technical Work Group (TWG) Meeting on January 25th, and Adaptive Management Work Group (AMWG) Meeting February 28th – 29th.

The AMWG received an update on the outlet works at Glen Canyon Dam. Concern regarding potential damage during future use of the outlet works increased when cavitation was identified following the April 2023 high flow experiment. Three areas of concern have been identified: cavitation, thinning of the pipe wall, and tailrace sediment scour. To ensure the safety of the river outlet works, the modeling assumptions in the Draft Long-Term Experimental and Management Plan (LTEMP) SEIS do not include high flow experiments when the elevation of Glen Canyon Dam is below 3,500 feet. For other experimental flow actions, operation of the outlet works below total capacity is expected to reduce or eliminate cavitation. Reclamation is compiling a technical report on bypass use, which is anticipated to be made available in March. Replacement of the epoxy coating in the bypass tubes is expected to be completed by early 2025, repairing any existing cavitation damage; however, this will not reduce the likelihood of cavitation during future bypass tube operation.

Annual reporting included updates on the monitoring of humpback chub during 2023. Juvenile populations of humpback chub are high in the Little Colorado River and two designated sites for juvenile chub monitoring in the mainstem of the Colorado River. The abundance of adult humpback chub near the Little Colorado River and above Chute Falls is high.

The AMWG received a report on non-native fish monitoring. Multiple agencies conduct this monitoring, including: the National Park Service, the U.S. Geological Survey's Grand Canyon Monitoring and Research Center (GCMRC), the U.S. Fish and Wildlife Service, and the Arizona Game and Fish Department. Increasing numbers of smallmouth bass, green sunfish, and walleye continue to be identified during monitoring trips. In the last several years, the population of smallmouth bass has increased from a small handful of fish to an estimated population of 4,000-5,000 fish. In response, Reclamation released the Draft LTEMP SEIS, which includes several options for disadvantaging smallmouth bass. A final LTEMP SEIS is expected in May, with a record of decision in June, so that the options could be employed this year if needed.

The National Park Service reported that it is continuing to evaluate modification of the -12 mile slough as part of a multi-agency effort to prevent the establishment of smallmouth bass and other warmwater invasive non-native fish. If the project moves forward, construction is anticipated to occur in fall 2024 or early 2025.

Reclamation is continuing to evaluate the feasibility of installing a net or curtain above Glen Canyon Dam to prevent passage of warmwater invasive species through Glen Canyon Dam. Reclamation is in the process of finalizing a technical report regarding this potential project. Additional Reclamation efforts towards this evaluation includes the following: conducting a biofouling study, conducting temperature and total dissolved solids monitoring to assess effectiveness, and conducting a value planning study.

Reclamation is evaluating options for improving hydropower generation at Glen Canyon Dam when water levels are low. A value planning study was completed in 2022, which identified several options, including adding power generation to the outlet works, connecting the outlet works to the existing power plant, or adding a powerplant to the right abutment of the dam. Reclamation will complete an appraisal study by late 2025 or early 2026, identifying cost estimates and appraisal design.

The GCDAMP is currently in the process of developing the next triennial work plan and budget. The work plan and budget will guide the work of the GCMRC and Reclamation over the next three

years. The AMWG will consider a recommendation to the Secretary of the Interior regarding the work plan and budget at its August meeting.

Finally, the TWG will meet April 10 –11 in Tempe, Arizona, and the AMWG is scheduled to meet virtually on May 15th.

Status of the Lower Colorado River Multi-Species Conservation Program

The Steering Committee of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) met virtually on February 15th, 2024. The Steering Committee passed a resolution by consensus to provide up to $25,477,820 from the Land and Water Fund to acquire 1,971 acres of land and associated water rights within the Palo Verde Valley to establish a new conservation area. The acquisition is subject to the identification of non-LCRMSCP matching funds of $10,000,000 for a total acquisition cost of $35,477,820. If the acquisition is completed, the land would be titled to the California Department of Fish and Wildlife and restored and managed by the LCR MSCP.

The LCR MSCP Financial Work Group held a virtual meeting on February 22, 2024. The group discussed the FY-2023 budget, which was $24.0 million. Actual expenditures in FY-2023 were above budget at $24.5 million. Costs, including construction and acquisition of plants, are increasing. Recent staff turnover resulted in delays of some tasks. These delays are not anticipated to affect the LCR MSCP schedule but did reduce spending at some sites for FY-2023. As anticipated, overall spending on research is decreasing as the program matures and the knowledge gaps needed to implement and monitor projects have been addressed.

Planting has been completed at the Dennis Underwood Conservation Area in the southern portion of the Palo Verde Valley. The site is moving into the management phase of the LCR MSCP. Efforts continue to restore water supply to the Lake Mead Fish Hatchery. The hatchery is projected to return to use in 2025. If the land purchase in the Palo Verde Valley is completed, projected work at other LCR MSCP sites will be modified as this site is incorporated in the program.

The LCR MSCP Steering Committee is scheduled to hold a hybrid meeting with in-person attendance in Las Vegas, NV on April 4, 2024.

GENERAL ANNOUNCEMENTS AND UPDATES

Washington, D.C. Report

Appropriations

House and Senate appropriators have reached an agreement on the six-bill funding package for FY24 funding that includes $1.9 billion for the Bureau of Reclamation under the Energy and Water title. The package also includes Agriculture, Commerce, Interior, Justice and Transportation and funds all six departments through September 2024. The House passed the appropriations package earlier this week and the Senate is slated to pass the package by the end of the week, barring any last-minute challenges.

Additional relevant line items included in the Energy and Water Appropriations bill:

- Drought response: $30 million
- Salton Sea Research Project: $2 million
- Salinity Control Title 1: $19.5 million
- Salinity Control Title 2: $6 million
- Lower Colorado River Operations Program: $48.9 million
- Mexico Border Issues Technical Assistance: $71,000

Budget

The President's budget was released on Monday, March 11, 2024. Appropriations committees in both the House and Senate are scheduled to hold budget hearings in the near future.

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