COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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Jared Polis, Governor

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Lauren Ris, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Amy Ostdiek and Michelle Garrison

DATE: July 16, 2025

SUBJECT: Agenda Item 12: Colorado River Updates

This is an informational item with no board action requested.

1. Hydrology and operations update

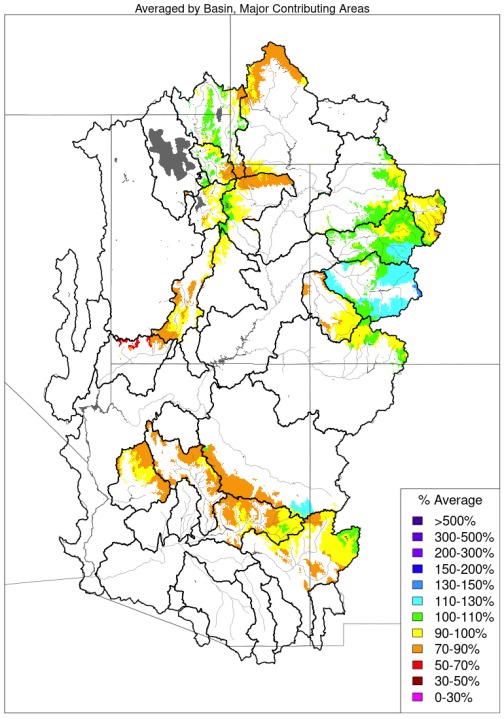
Hydrology

Aridification and extended drought conditions have placed significant strain on basin storage and on water users in the Upper Basin. Water Year 2024 precipitation was near average, while streamflow was below average. WY 2025 precipitation and streamflow have been significantly below average. Snowpack peaked early and was below average. April through June precipitation was far below normal, and forecasts dropped significantly as the dry conditions continued through the spring and early summer. Soil moisture has decreased and inflow into Lake Powell has been significantly below normal. Inflow forecasts of 42% of average for Lake Powell reflect recent precipitation, snowpack and soil moisture conditions. Climate forecasts indicate an increased likelihood of warmer than average conditions for the summer and fall and uncertainty about the magnitude of the summer monsoon.

Drought conditions have increased in severity and reservoir storage conditions have deteriorated in western Colorado and throughout the basin. Long-term impacts from depleted storage are expected to continue, as indicated in current forecasts for reservoir operations.

Water Year to Date Precipitation, October 01 - September 30 2024

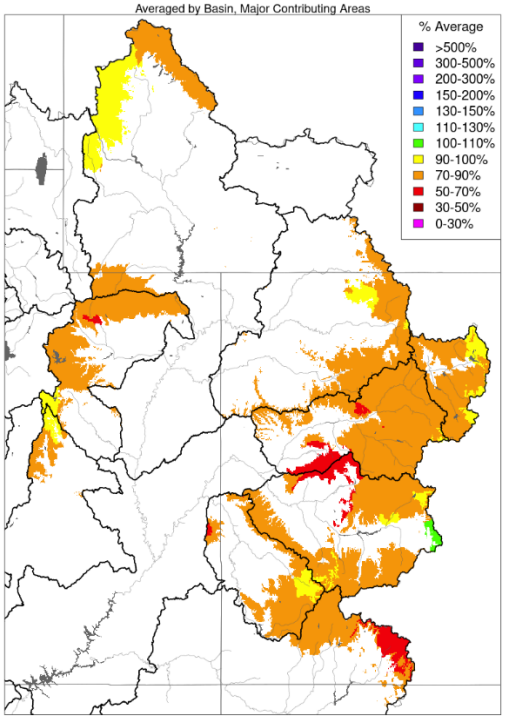
Averaged by Basin, Major Contributing Areas



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Water Year Precipitation, October 2024 - June 2025

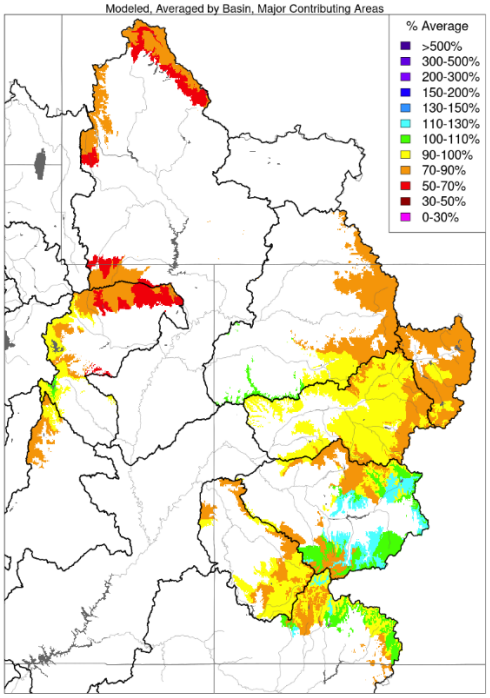
Averaged by Basin, Major Contributing Areas



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Soil Moisture - Fall - 2024 (November 15)

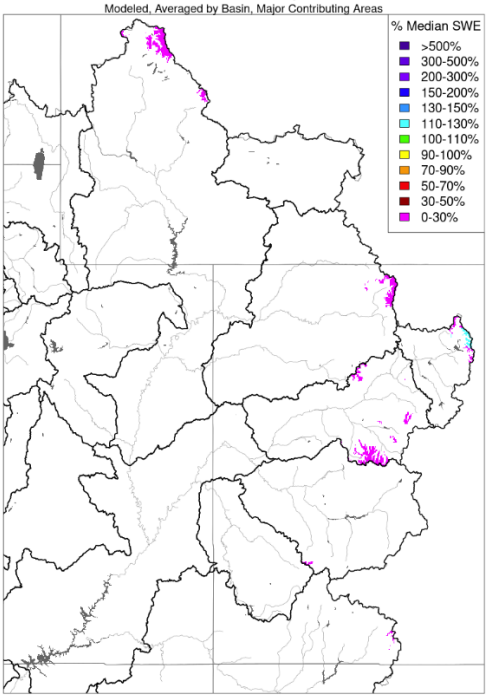
Modeled, Averaged by Basin, Major Contributing Areas



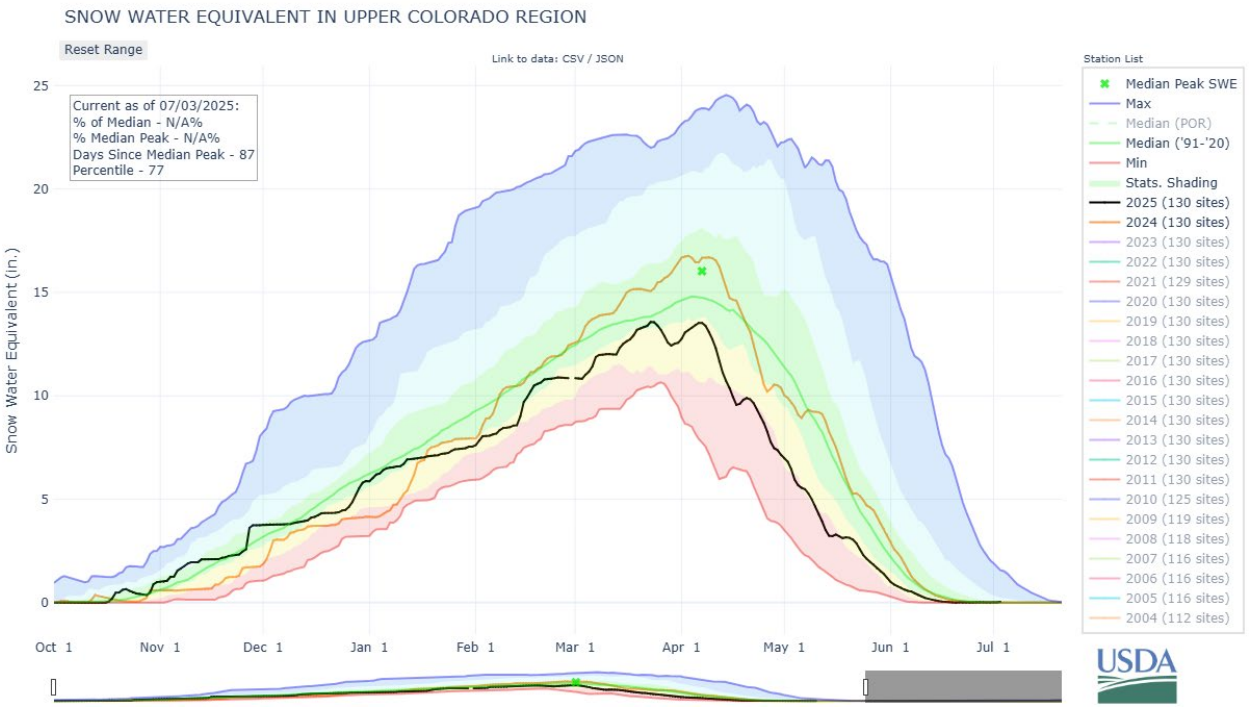
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

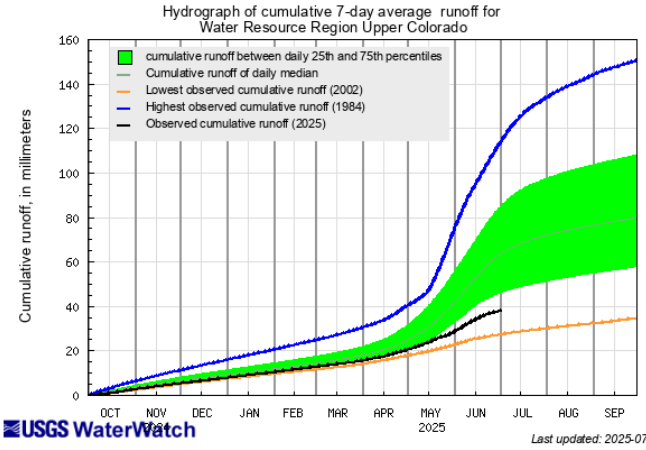
Snow Conditions - July 03 2025

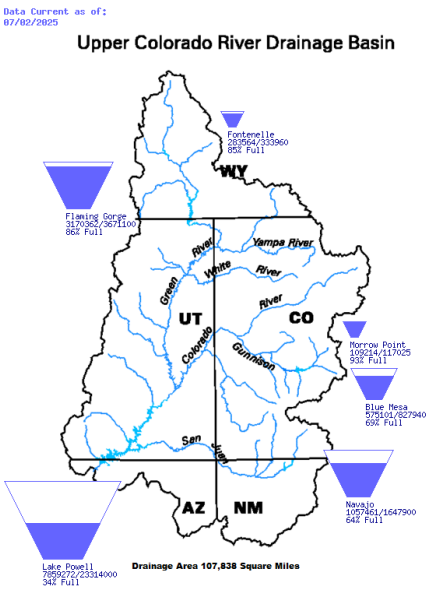
Modeled, Averaged by Basin, Major Contributing Areas

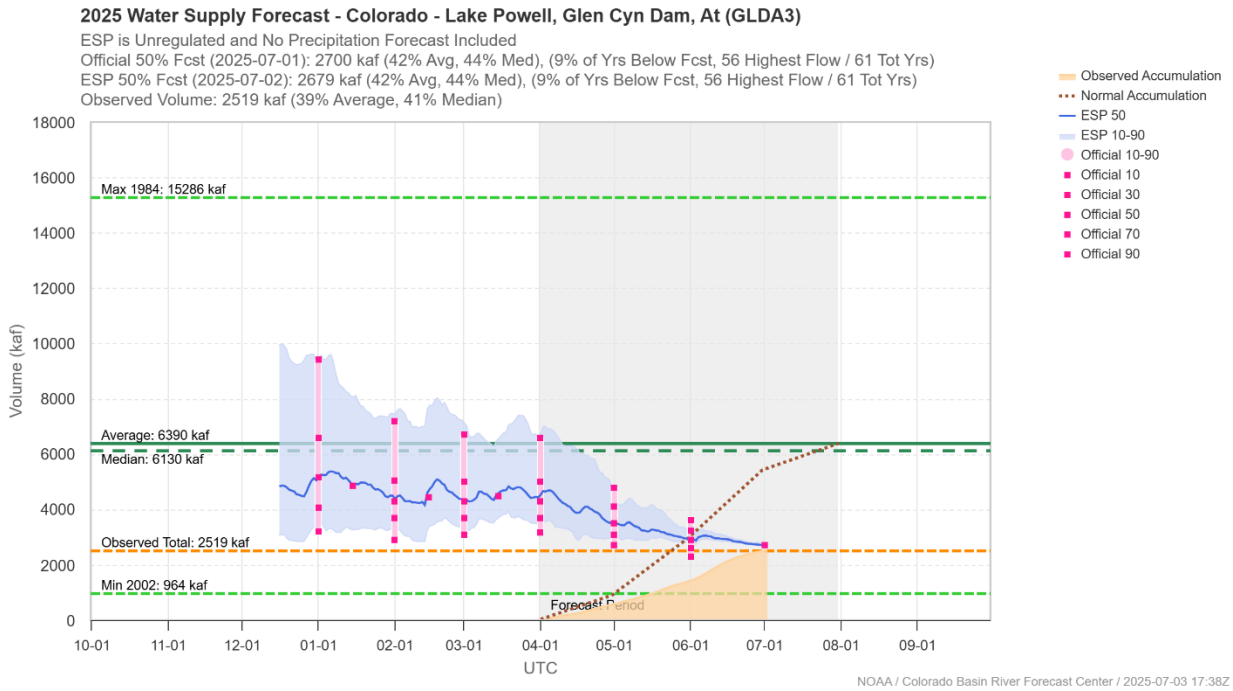


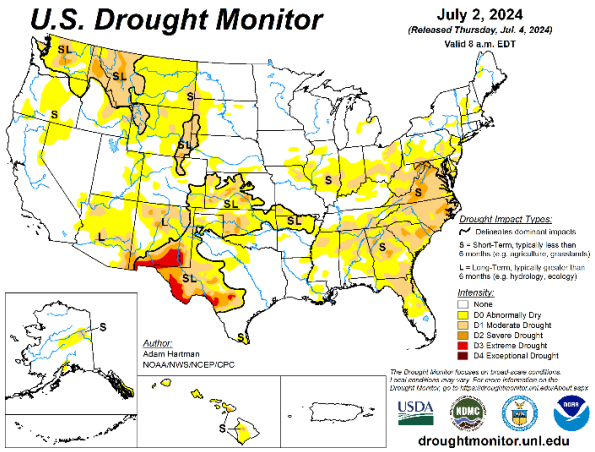
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

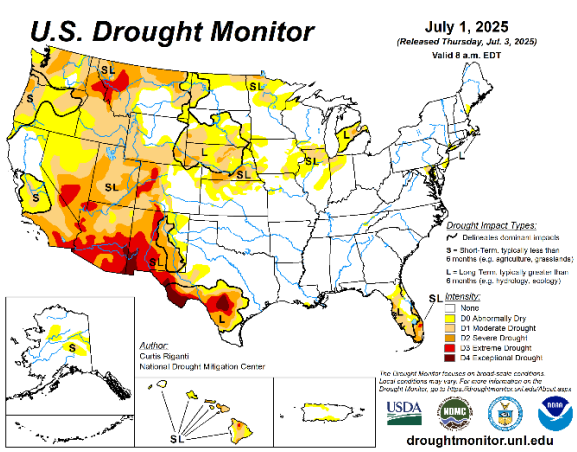

SNOW WATER EQUIVALENT IN UPPER COLORADO REGION
Reset Range
Link to data: CSV / JSON
Current as of 07/03/2025:
% of Median - N/A%
% Median Peak - N/A%
Days Since Median Peak - 87
Percentile - 77
Snow Water Equivalent (in.)
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
Station List
Median Peak SWE
Max
Median (POR)
Median ('91-'20)
Min
Stats. Shading
2025 (130 sites)
2024 (130 sites)
2023 (130 sites)
2022 (130 sites)
2021 (129 sites)
2020 (130 sites)
2019 (130 sites)
2018 (130 sites)
2017 (130 sites)
2016 (130 sites)
2015 (130 sites)
2014 (130 sites)
2013 (130 sites)
2012 (130 sites)
2011 (130 sites)
2010 (125 sites)
2009 (119 sites)
2008 (118 sites)
2007 (116 sites)
2006 (116 sites)
2005 (116 sites)
2004 (112 sites)
USDA


Hydrograph of cumulative 7-day average runoff for
Water Resource Region Upper Colorado
cumulative runoff between daily 25th and 75th percentiles
Cumulative runoff of daily median
Lowest observed cumulative runoff (2002)
Highest observed cumulative runoff (1984)
Observed cumulative runoff (2025)
Cumulative runoff, in millimeters
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
2024
2025
USGS WaterWatch
Last updated: 2025-07-03


Data Current as of:
07/02/2025
Upper Colorado River Drainage Basin
Fontenelle
283564/333960
85% Full
Flaming Gorge
3170362/3671100
86% Full
WY
Yampa River
White River
Green River
UT
CO
Colorado
Gunnison
San Juan
AZ
NM
Morrow Point
109214/117025
93% Full
Blue Mesa
575101/827940
69% Full
Navajo
1057461/1647900
64% Full
Lake Powell
7859272/23314000
34% Full
Drainage Area 107,838 Square Miles







Operations

Upper Basin

Low inflows and reservoir storage prompted multiple reservoir operation changes and Upper Basin Drought Contingency Plan (DCP) activities in WY 2022 and 2023 to protect critical infrastructure in Lake Powell, including releases from Blue Mesa and Flaming Gorge reservoirs. Due to improved hydrologic conditions in WY 2023, Lake Powell elevations rose significantly in April 2023 and have remained above the 3525’ threshold.

High spring runoff and increasing reservoir elevations in spring 2023 changed the Upper Basin DCP focus to recovery of previously released DROA water and substantially increased WY 2023

releases from Lake Powell. WY 2023 was the first year in which Lake Powell operated in the Lower Elevation Balancing Tier. In that tier, releases from Lake Powell are initially set to 7.0 MAF but can be adjusted up to a maximum of 9.5 MAF based on inflow forecasts. Releases were adjusted monthly from April through September. Lake Powell releases totaled 8.58 MAF for WY 2023. As the inflow forecasts declined quickly due to the warm and dry conditions and Lake Mead projections increased due to precipitation and decreasing demand, Reclamation decreased Lake Powell releases, but still inadvertently released 40,000 acre-feet more from Powell than was required under balancing. They claim to have no authority to correct this inadvertent release.

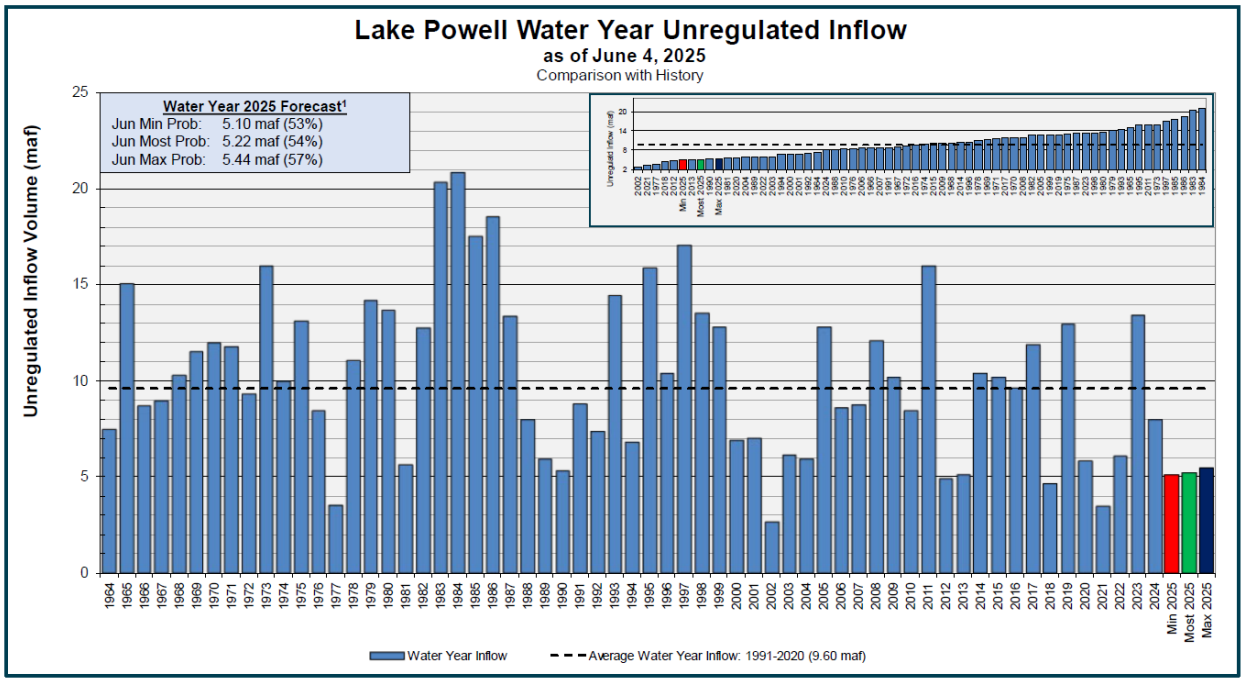
In spring 2023 as Lake Powell elevation was very low but inflow and elevation were rising, Reclamation increased releases significantly for several days to mobilize sediment remaining in the system from tributary inflows below Glen Canyon Dam and deposit it onto eroding sandbars within the Grand Canyon. Reclamation increased powerplant releases and made releases through the bypass tubes similar to a High Flow Experiment (HFE), but this high release was conducted outside the LTEMP protocol for such experiments. This was the first time releases of that magnitude were made through the bypass tubes with Lake Powell at such a low elevation, and the altered hydraulic conditions damaged one of the bypass tubes. Reclamation is evaluating potential short-term limitations to Glen Canyon Dam operations and long-term actions to prevent additional damage to the bypass tubes and has issued temporary guidance limiting bypass tube releases at low elevation while it analyzes potential solutions. As part of that effort, Reclamation has applied additional coating to the bypass tubes.

Blue Mesa and Flaming Gorge reservoirs achieved recovery of previously released DROA water in WY 2024.

DROA actions helped protect critical infrastructure in Lake Powell from late 2021 through April 2023. However, half of the DROA water in Lake Powell was released in WY 2023 as part of the balancing releases. Lake Powell elevations are now lower than they would have been without DROA releases, leaving Lake Powell at increased risk of dropping below critical elevations in the future. The lack of long-term effectiveness of the 2021 – 2023 DROA releases does not match the goals and objectives of the DROA and may factor into future Upper Basin DCP decisions.

As determined by Reclamation's August 2024 24-Month Study, Lake Powell is operating in the Mid-Elevation Release Tier in WY 2025 with a fixed annual release of 7.48 MAF. Streamflow at the Lees Ferry gage includes Lake Powell releases, flow of water around the Glen Canyon dam through bank storage and leakage, and inflows from the Paria River. The 10-year cumulative streamflow at Lees Ferry through WY 2024 was slightly less than 86 million acre-feet.

Lake Powell storage is expected to decline significantly in WY 2025 due to extremely low inflows. Lake Powell elevations may approach the 3525' threshold in early 2026. Reclamation is providing monthly forecasts to the Upper Division States. CWCB staff will provide updates on any potential Upper Basin DCP plans as forecasts change.



Lower Basin

The table below describes the Interim Guideline Lower Basin shortage tiers, reduction of deliveries to Mexico pursuant to Minute 323, Lower Basin DCP contributions and Binational Water Scarcity Contingency Plan contributions as determined by projected elevations at Lake Mead. As determined by the August 2024 24-Month Study, in Calendar Year 2025 Lake Mead is operating in a Tier 1 shortage condition, as it did in CY 2024.

2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan, and Binational Water Scarcity Contingency Plan

Total Volumes (kaf)

2025 Reductions + Contributions →

Lake Mead Elevation (feet msl)	2007 Interim Guidelines Shortages		Minute 323 Delivery Reductions	Total Combined Reductions	DCP Water Savings Contributions			Binational Water Scarcity Contingency Plan Savings	Combined Volumes by Country *US: (2007 Interim Guidelines Shortages + DCP Contributions)* *Mexico: (Minute 323 Delivery Reductions + Binational Water Scarcity Contingency Plan Savings)*					Total Combined Volumes
	AZ	NV	Mexico	***Lower Basin States + Mexico***	AZ	NV	CA	Mexico	*AZ Total*	*NV Total*	*CA Total*	*Lower Basin States Total*	*Mexico Total*	***Lower Basin States + Mexico***
1,090 - 1,075	0	0	0	***0***	192	8	0	41	192	8	0	*200*	*41*	***241***
1,075 - 1050	320	13	50	***383***	192	8	0	30	512	21	0	*533*	*80*	***613***
1,050 - 1,045	400	17	70	***487***	192	8	0	34	592	25	0	*617*	*104*	***721***
1,045 - 1,040	400	17	70	***487***	240	10	200	76	640	27	200	*867*	*146*	***1,013***
1,040 - 1,035	400	17	70	***487***	240	10	250	84	640	27	250	*917*	*154*	***1,071***
1,035 - 1,030	400	17	70	***487***	240	10	300	92	640	27	300	*967*	*162*	***1,129***
1,030 - 1,025	400	17	70	***487***	240	10	350	101	640	27	350	*1,017*	*171*	***1,188***
<1,025	480	20	125	***625***	240	10	350	150	720	30	350	*1,100*	*275*	***1,375***

← 2025 Reductions + Contributions

The Secretary of the Interior will take affirmative actions to implement programs designed to create or conserve 100,000 acre-ft per annum or more of Colorado River System water to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the lower basin. All actions taken by the United States shall be subject to applicable law, including availability of appropriations.

The Lower Basin proposed up to 3 million acre-feet of compensated conservation and other activities to address drought conditions as part of Reclamation's Supplemental Environmental Impact Statement (SEIS) process to contemplate additional changes to Lake Powell and Lake Mead reservoir operations through the end of the Interim Guidelines ("near-term operations"). Reclamation released its final Interim Guidelines SEIS and issued its Record of Decision (ROD) in 2024. The final SEIS analyzed only two alternatives, a No Action alternative and the Lower Basin alternative, removing the previously proposed action alternatives from final consideration. Reclamation is adding the expected conservation volumes to its models as conservation agreements with participating entities are signed, which is increasing projected Lake Mead elevations. Estimates from May 2025 are summarized in the tables below. Note that the conservation numbers for 2023 include large volumes of water that were not a result of intentional conservation actions, but were produced by extremely wet hydrology in certain locations in the Lower Basin.

Status of SEIS ROD Lower Basin Conservation
As of May 2025

Year	Amount Conserved (acre-feet)	Cumulative Conserved (acre-feet)
2023[1]	1,160,697	1,160,697
2024[1]	871,014	2,031,711
2025[2]	876,483	2,908,194
2026[2]	692,098	3,600,292

Status of 2024 SEIS ROD Protection Volume

Table 25. Reservoir Protection Conservation by State, Water User, and Activity Type, Calendar Year 2024. (Values are in acre-feet.) [1]

State/Water User	Compensated System Conservation Water Creation	ICS Creation [2]	Other Conserved Water Left in Lake Mead	Total
Arizona				
Cathcarts [3]	61	-	0	61
Central Arizona Project Subcontractors [4]	123,400	-	0	123,400
Cibola Valley Irrigation and Drainage District [5]	2,328	-	0	2,328
Fort McDowell Yavapai Nation [6]	13,933	-	0	13,933
Gila River Indian Community [7]	125,000	0	0	125,000
Hopi Tribe [8]	3,059	-	0	3,059
Matador Farms, LLC [9]	3,240	-	0	3,240
Mohave Valley Irrigation and Drainage District [10]	13,293	0	0	13,293
Yuma Mesa Irrigation and Drainage District [11]	21,657	-	0	21,657
Total Arizona	**305,971**	**0**	**0**	**305,971**
California				
Coachella Valley Water District [12]	35,725	-	0	35,725
Imperial Irrigation District [13]	257,640	0	0	257,640
Metropolitan Water District of Southern California (MWD) [14]	27,010	0	0	27,010
MWD/Bard Water District [15]	5,700	-	0	5,700
Palo Verde Irrigation District/MWD [16]	117,021	-	0	117,021
Quechan Indian Tribe (Fort Yuma Indian Reservation)/MWD [17]	13,000	-	0	13,000
Total California	**456,096**	**0**	**0**	**456,096**
Nevada				
Southern Nevada Water Authority [18]	74,572	34,375	0	108,947
Total Nevada	**74,572**	**34,375**	**0**	**108,947**
Total Reservoir Protection Conservation Volumes - Calendar Year 2024	**836,639**	**34,375**	**0**	**871,014**
Total Reservoir Protection Conservation Volumes - Cumulative Volume [19]				**2,031,711**

Minute 330: Expansion of Colorado River Temporary Measures

The United States and Mexico entered into Minute 330 to the 1944 U.S. - Mexico Water Treaty in April 2024. This agreement includes a commitment from Mexico to generate 400,000 acre-feet of water through conservation projects through 2026. 250,000 acre-feet of water will benefit the Colorado River System, and Mexico will receive $65 million from the United States to help fund that conservation effort. The additional 150,000 acre-feet of water will be deferred for delivery beyond CY 2026 as part of Mexico's Water Reserve. These volumes are in addition to any volumes conserved under Minute 323. Both minutes expire in 2026. The schedule for generation of water by Mexico is described in the table below.

Date	Minimum Cumulative Volume (acre-feet)	Minimum Cumulative Volume (cubic meters)
By December 31, 2024	133,000	164,054,000
By December 31, 2025	333,000	410,752,000
By December 31, 2026	400,000	493,396,000

Minute 330 can be accessed at the following link: Minute No. 330

LTEMP

In 2024 Reclamation also released its Final SEIS and ROD for the Glen Canyon Dam Long-Term Experimental and Management Plan (LTEMP) that explores options for changing monthly and daily releases and release temperatures to help prevent establishment of smallmouth bass and other non-native fish in the Grand Canyon and to alter sediment accounting and implementation windows for high flow experiments to distribute sand higher on sandbars. The options include releases through the bypass tubes, limited by the new interim operating guidance. LTEMP does not alter annual releases, which are determined according to the Interim Guidelines.
Bypass releases to reduce water temperatures from Glen Canyon Dam to disadvantage smallmouth bass reproduction were conducted July – November. Monitoring indicated the releases were likely effective in reducing smallmouth bass reproduction. Hydropower costs to the Basin Fund from the bypass releases exceeded $18 million. Reclamation may conduct bypass releases to reduce water temperatures again in 2025. Recent modeling suggests the 2025 bypass releases might be of shorter duration than in 2024, which would decrease the cost.

2. Post-2026 Operations of Lake Powell and Lake Mead

The Basin States continue to engage in negotiations to establish new post-2026 operational guidelines for Lake Powell and Lake Mead. The Department of the Interior has indicated its strong preference for the states to reach consensus and has recently requested that the framework of a consensus be submitted by November 11, 2025, with final details by February 14, 2026.

Colorado and the Upper Division States have consistently advocated for supply-driven operations of Lake Powell and Lake Mead, and a concept currently under discussion by the Basin States may achieve this, if appropriately developed. This supply-driven operations concept is discussed in further detail below.

I. The Natural Flow Based Operations Concept

A significant development in recent negotiations is the emergence of the "Natural Flow Based Operations" concept, which may provide an opportunity for a supply-driven management framework. This concept proposes that Lake Powell would release a certain percentage of the average of the last few years of natural flow as determined at Lees Ferry.

Key Elements Under Discussion:

- **Averaging Period:** There is general agreement among the Basin States that a three-year period for averaging natural flow at Lees Ferry is appropriate.
- **Release Percentage:** Negotiations are ongoing regarding the percentage or volume of the natural flow average that Lake Powell will release. Discussions also include whether this percentage could vary depending on specific hydrologic conditions.
- **Upper and Lower Release Bounds:** Defining clear upper and lower bounds for Powell's releases is also a critical element under negotiation.

This framework is designed to allow the Upper and Lower Basins to manage themselves, with the primary point of agreement being the Powell release volume. For this concept to be successful, the Basin States must agree to set aside existing legal arguments, and any negotiated framework must not bias either Basin's legal position. This includes an understanding that it would not impose a delivery obligation on the Upper Basin. The Basin States would also agree that no Compact claims may be asserted pursuant to the agreement.

The Basin States discussions are ongoing, and Colorado will continue to pursue a supply-driven approach that appropriately mitigates risks to Lake Powell and Lake Mead and protects the interests of the Upper Division States.