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RECLAMATION

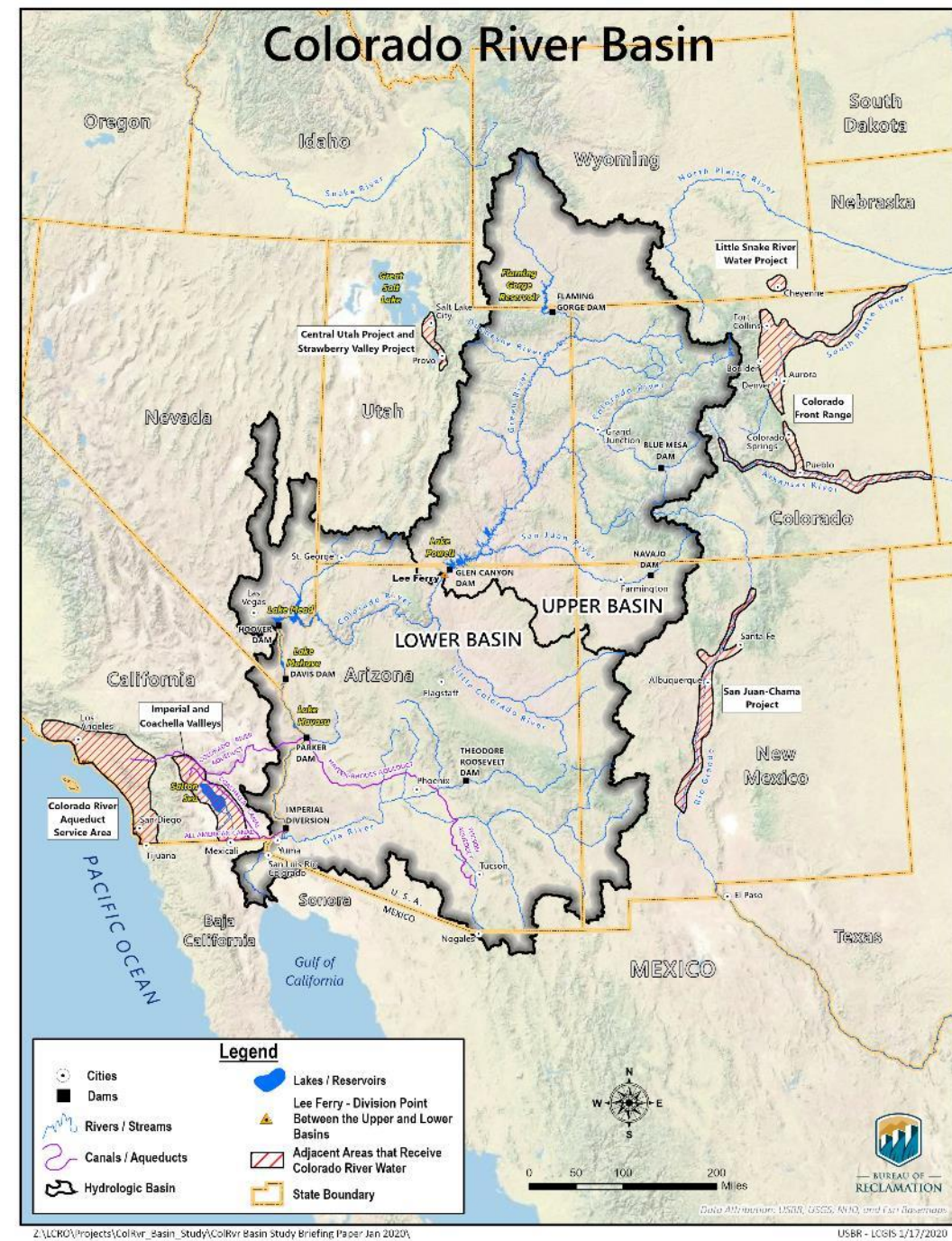
Colorado River Operations and Conditions

Erin Orozco-Whitaker

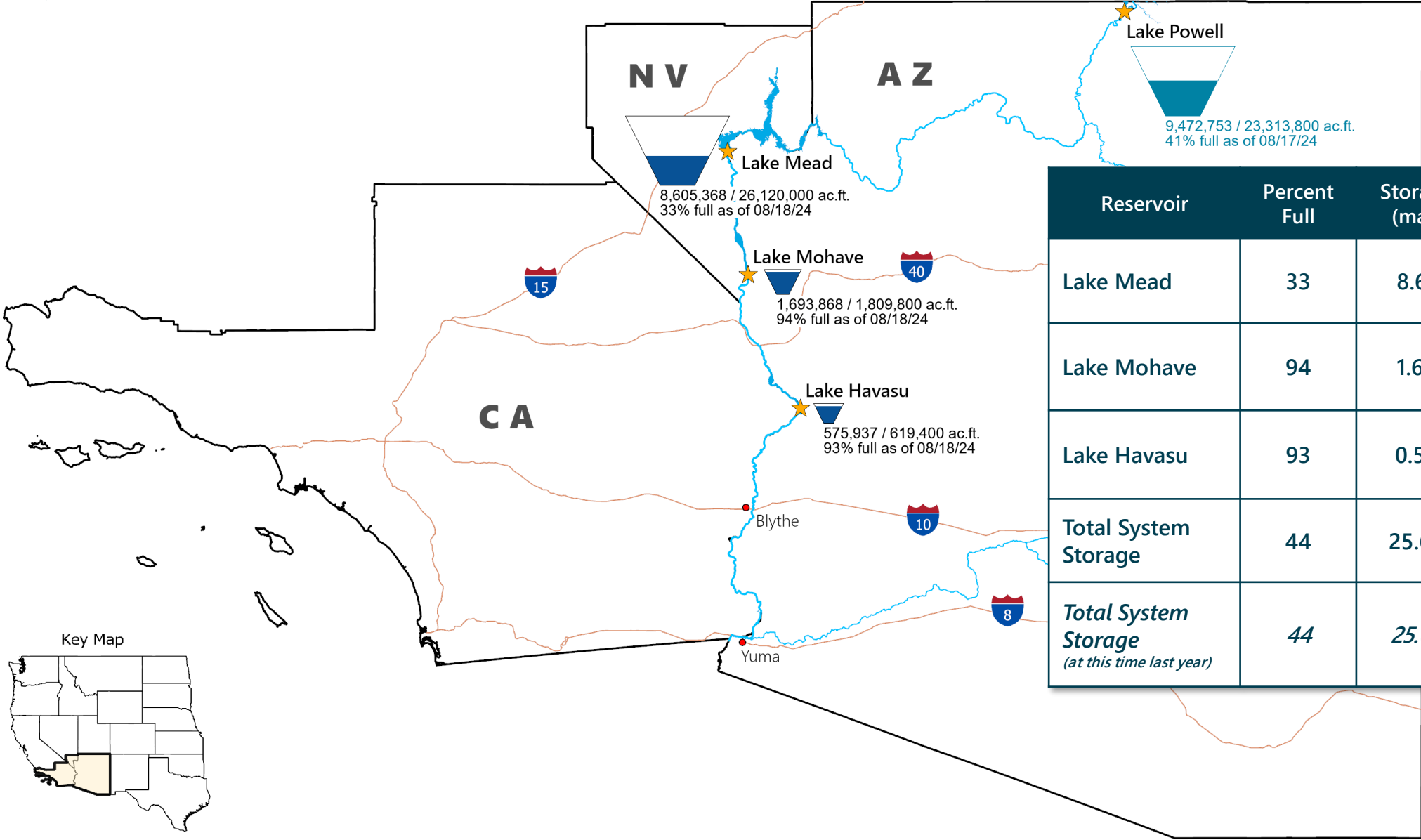
Hydrologist, River Operations August 23, 2024

Colorado River Basin Hydrology

- 16.5 million acre-feet (maf) allocated annually
 - 7.5 maf each to Upper and Lower Basins
 - 1.5 maf to Mexico
- 16 maf average annual “natural flow” (from historical record)
 - 14.8 maf in the Upper Basin and 1.3 maf in the Lower Basin
- Inflows are highly variable year to year
- 60 maf of storage (about 4 times the annual average inflow)
- Operations and water deliveries governed by the “Law of the River”



Lower Colorado Basin System Conditions (as of August 18, 2024)



Reservoir	Percent Full	Storage (maf)	Elevation (feet)
Lake Mead	33	8.61	1,062.39
Lake Mohave	94	1.69	642.82
Lake Havasu	93	0.58	447.79
Total System Storage	44	25.68	-
Total System Storage (at this time last year)	44	25.69	-

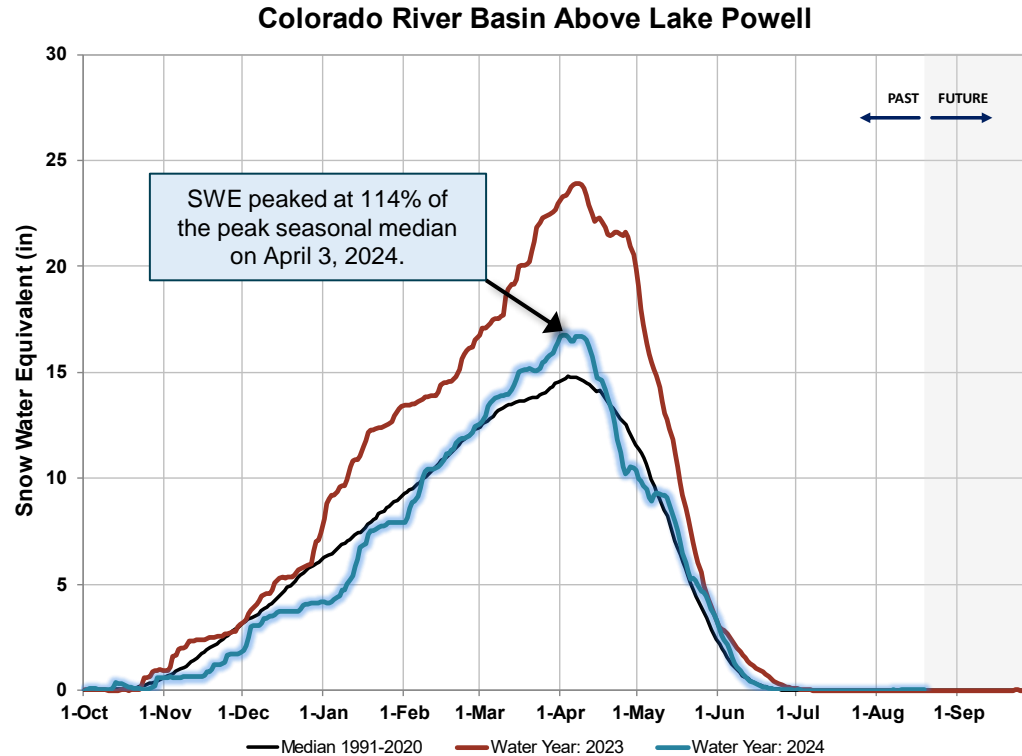


Water Year 2024

Precipitation & Snowpack¹

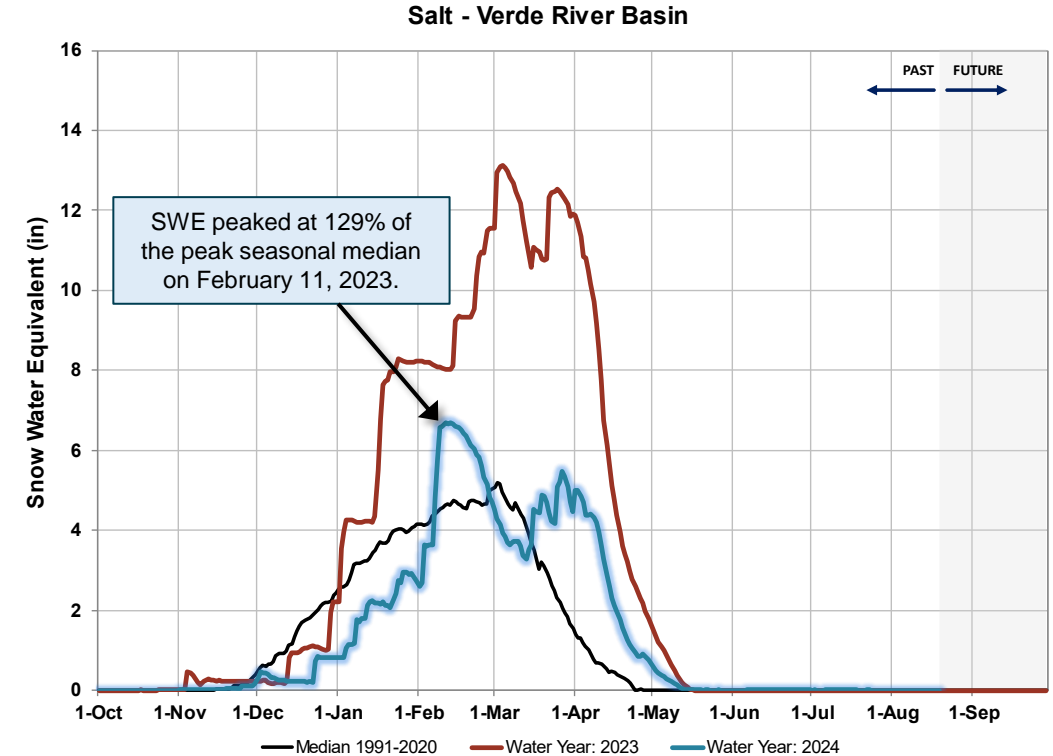
as of August 18, 2024

Upper Colorado River Basin



Precipitation - 103%
Basin Snowpack - NA%

Salt - Verde River Basin



Precipitation - 111%
Basin Snowpack - NA%

¹ Percent of normal precipitation is based on an arithmetic mean, or average; percent of normal snowpack is based on the median value for a given date. Water Year statistics are based on the 30-year period from 1991-2020.



Lower Basin Side Inflows – WY/CY 2024^{1,2}

Intervening Flow from Glen Canyon to Hoover Dam

Month in WY/CY 2024		5-Year Average Intervening Flow (kaf)	Observed Intervening Flow (kaf)	Observed Intervening Flow (% of Average)	Difference From 5-Year Average (kaf)
Observed	October 2023	61	31	51%	-30
	November 2023	57	41	71%	-17
	December 2023	76	74	96%	-3
	January 2024	81	67	83%	-13
	February 2024	69	87	127%	19
	March 2024	129	60	47%	-69
	April 2024	101	79	78%	-22
	May 2024	69	24	34%	-46
	June 2024	28	20	72%	-8
	July 2024	48	28	58%	-20
Projected	August 2024	96			
	September 2024	81			
	October 2024	61			
	November 2024	57			
	December 2024	76			
	WY 2024 Totals	896	687	77%	-209
	CY 2024 Totals	896	737	82%	-159

¹ Values were computed with the LC's gain-loss model for the most recent 24-month study.

² Percents of average are based on the 5-year mean from 2019-2023.



Lake Powell & Lake Mead Operational Table

Lake Mead Operating Condition Determination for CY 2025¹

Lake Powell			Lake Mead		
Elevation (feet)	Operation According to the Interim Guidelines	Live Storage (maf)	Elevation (feet)	Operation According to the Interim Guidelines	Live Storage (maf)
3,700	Equilization Tier Equalize, avoid spills, or release 8.23 maf	23.31	1,220	Flood Control Surplus or Quantified Surplus Condition Deliver > 7.5 maf	26.18
3,636-3,666 (2008-2026)	Upper Elevation Balancing Tier Release 8.23 maf If Lake Mead < 1,075 feet, balance contents with a min/max release of 7.0 and 9.0 maf	14.65-18.36 (2008-2026)	1,200 (approx.)	Domestic Surplus or ICS Surplus Condition Deliver > 7.5 maf	23.14 (approx.)
3,575		8.90	1,145	Normal or ICS Surplus Condition Deliver ≥ 7.5 maf	16.18
3,568.99 ft Jan 1, 2025 Projection	Mid-Elevation Release Tier Release 7.48 maf; if Lake Mead < 1,025 feet; release 8.23 maf		1,075	Shortage Condition Deliver 7.167 maf	1,062.32 ft Jan 1, 2025 Projection
	If any minimum probable Lake Powell elevation projection shows Lake Powell < 3,500 feet, begin planning to reduce releases to no less than 6.0 maf		1,050	Shortage Condition Deliver 7.083 maf	
3,525	Lower Elevation Balancing Tier Balance contents with a min/max release of 7.0 and 9.5 maf If any minimum probable Lake Powell elevation projection shows Lake Powell < 3,500 feet, begin planning to reduce releases to no less than 6.0 maf	5.55	1,025	Shortage Condition Deliver 7.0 maf	5.98
3,500	The Secretary reserves the right to operate Reclamation facilities to protect the Colorado River system if hydrologic conditions require such action as described in Sections 6 and 7(D) in the 2007 Interim Guidelines ROD	4.22	1,000	Further measures may be undertaken	4.48
3,370		0	895		0



¹ Lake Powell and Lake Mead operational tier determinations will be documented in the draft 2025 AOP.

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

Total Volumes (kaf)

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 <i>US: (2007 Interim Guidelines Shortages + DCP Contributions)</i> <i>Mexico: (Minute 323 Delivery Reductions + Binational Water Scarcity Contingency Plan Savings)</i>					Total Combined Volumes
	AZ	NV	Mexico	<i>Lower Basin States + Mexico</i>	AZ	NV	CA	Mexico	AZ Total	NV Total	CA Total	<i>Lower Basin States Total</i>	<i>Mexico Total</i>	<i>Lower Basin States + Mexico</i>
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

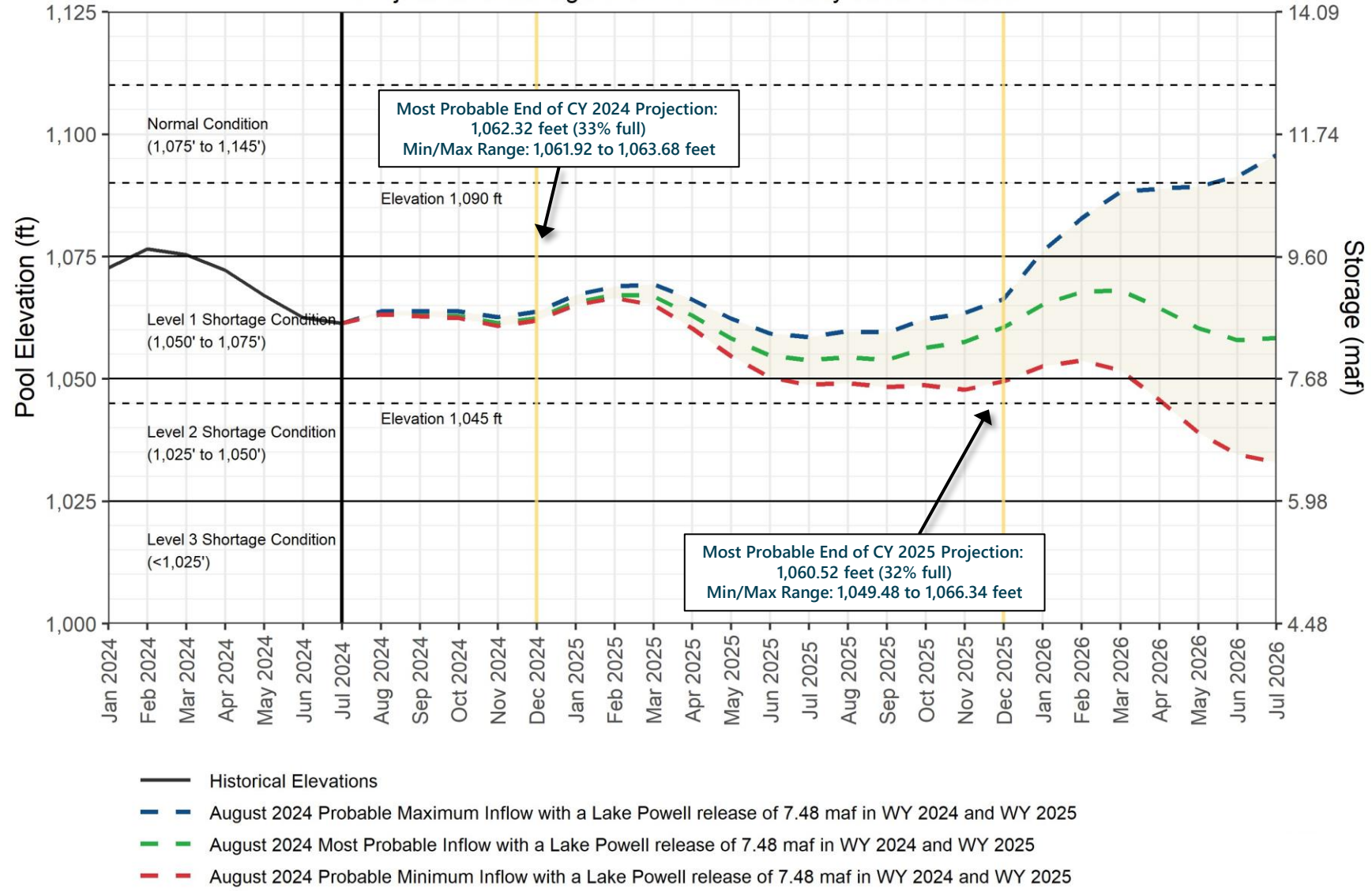


2025 Reductions +
Contributions



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.

Lake Mead End-of-Month Elevations Projections from August 2024 24-Month Study Inflow Scenarios



Projected Lake Mead Operational Tiers

Based on August 2024 24-Month Study Inflow Scenarios

Inflow Scenario	CY 2025	CY 2026
	Jan 1, 2025 Projection	Jan 1, 2026 Projections
Probable Maximum	Level 1 Shortage Condition+ Water Savings Contributions ^{1,2} Elevation 1,062.32 ft	Level 1 Shortage Condition+ Water Savings Contributions ¹ Elevation 1,066.34 ft
Most Probable		Level 1 Shortage Condition+ Water Savings Contributions ¹ Elevation 1,060.52 ft
Probable Minimum		Level 2 Shortage Condition+ Water Savings Contributions ¹ Elevation 1,049.48 ft

¹Water savings contributions consistent with the 2019 Colorado River Drought Contingency Plans and Section IV of IBWC Minute No. 323.

²Operating condition based on projected tier determination elevation from the August 2024 24-Month Study



Status of SEIS ROD Lower Basin Conservation¹

As of August 2024 (all volumes in acre-feet)

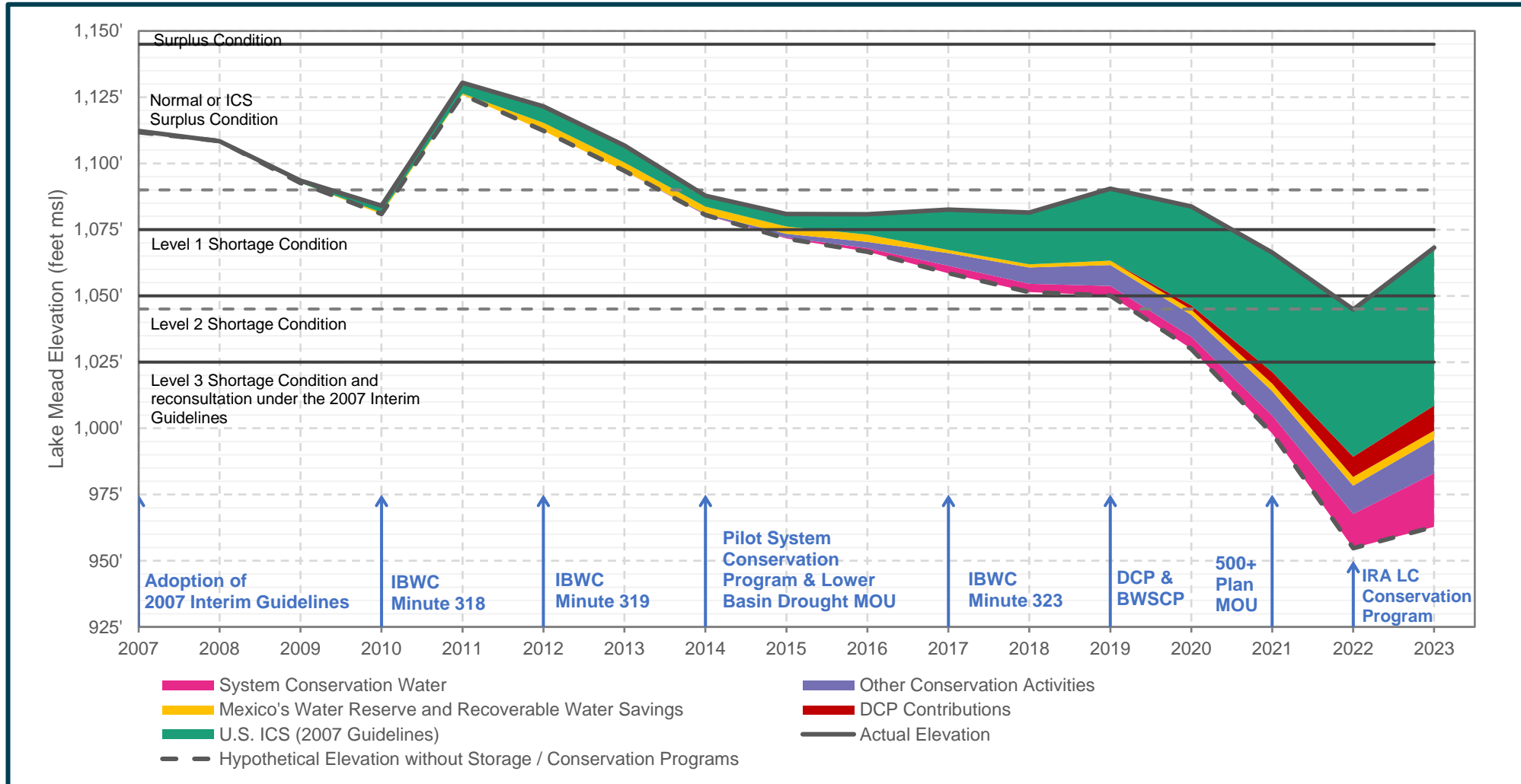
¹ Volumes reflect final accounting in the 2023 Water Accounting Report and executed system conservation agreements based on current projections. Any projected or provisional volumes are subject to change. Additional conservation activities are being considered including system conservation, ICS, and other conserved water in 2024, 2025, and 2026. These additional activities will be included in Reclamation's operational modeling.



Lake Mead Storage and Conservation*

Lake Powell WY Release (maf)

8.23	8.98	8.24	8.23	12.5	9.47	8.23	7.48	9.00	9.00	9.00	9.00	9.00	8.23	8.23	7.00	8.58
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*End of calendar year 2023 balances of U.S. ICS and Mexico's Water Reserve, system conservation water, and other voluntary contributions to Lake Mead are provisional numbers and are subject to change.



Summary

- The 2007 Interim Guidelines and DCP govern operations at Lakes Powell and Mead through 2026.
- Lake Mead will be operating under a Level 1 shortage condition in 2025.
- Conservation agreements in the US and Mexico have yielded a considerable amount of water left in Lake Mead.
- Additional actions are still needed to offset the impacts of low runoff conditions and keep the System sustainable (SEIS ROD, LC Conservation, and Minute No. 330).

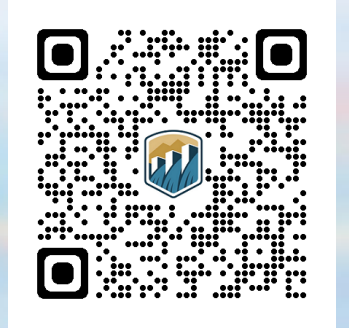


Questions / Discussion

For more information:

<https://www.usbr.gov/uc/water/>

<https://www.usbr.gov/lc/riverops.html>



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