

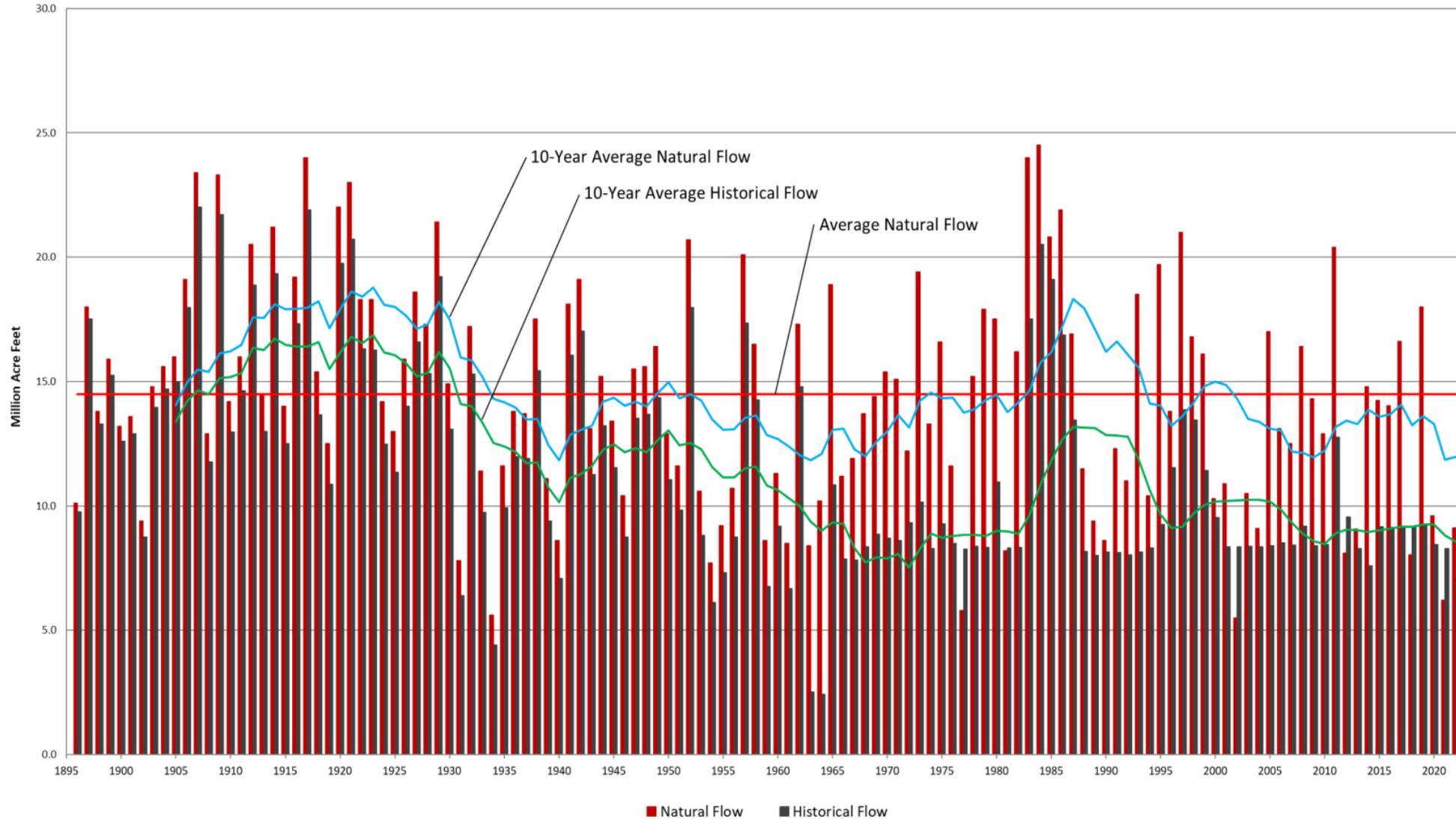
**Council of State Governments West  
Colorado River Forum**

**Pinedale, Wyoming  
September 14, 2023**

**Post 2026 Operations of Lake Powell and Lake Mead**

Brandon Gebhart, Wyoming State Engineer  
Chris Brown, Wyoming Attorney General's Office

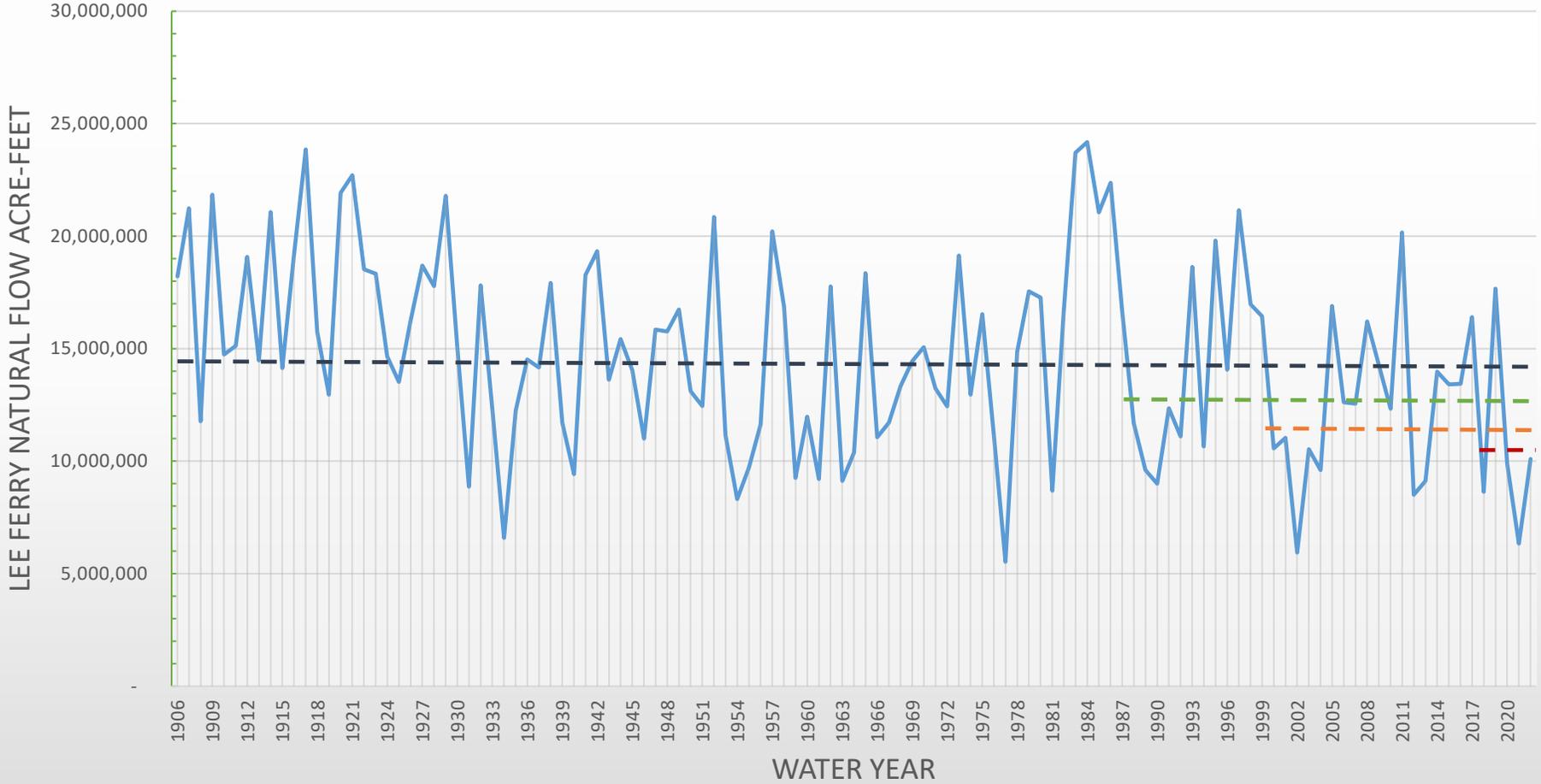
Colorado River Natural and Historical Flow Volume  
at Lee Ferry, Arizona (Through Water Year 2022)



2022 10 Yr. Avg.  
Lee Ferry Nat. Flow  
~ 11.9 MAF + LB  
Inflows = ~ 12.7

2022 Estimated  
UB Plus LB  
Mainstream  
Depletions:  
~ 13.5 MAF

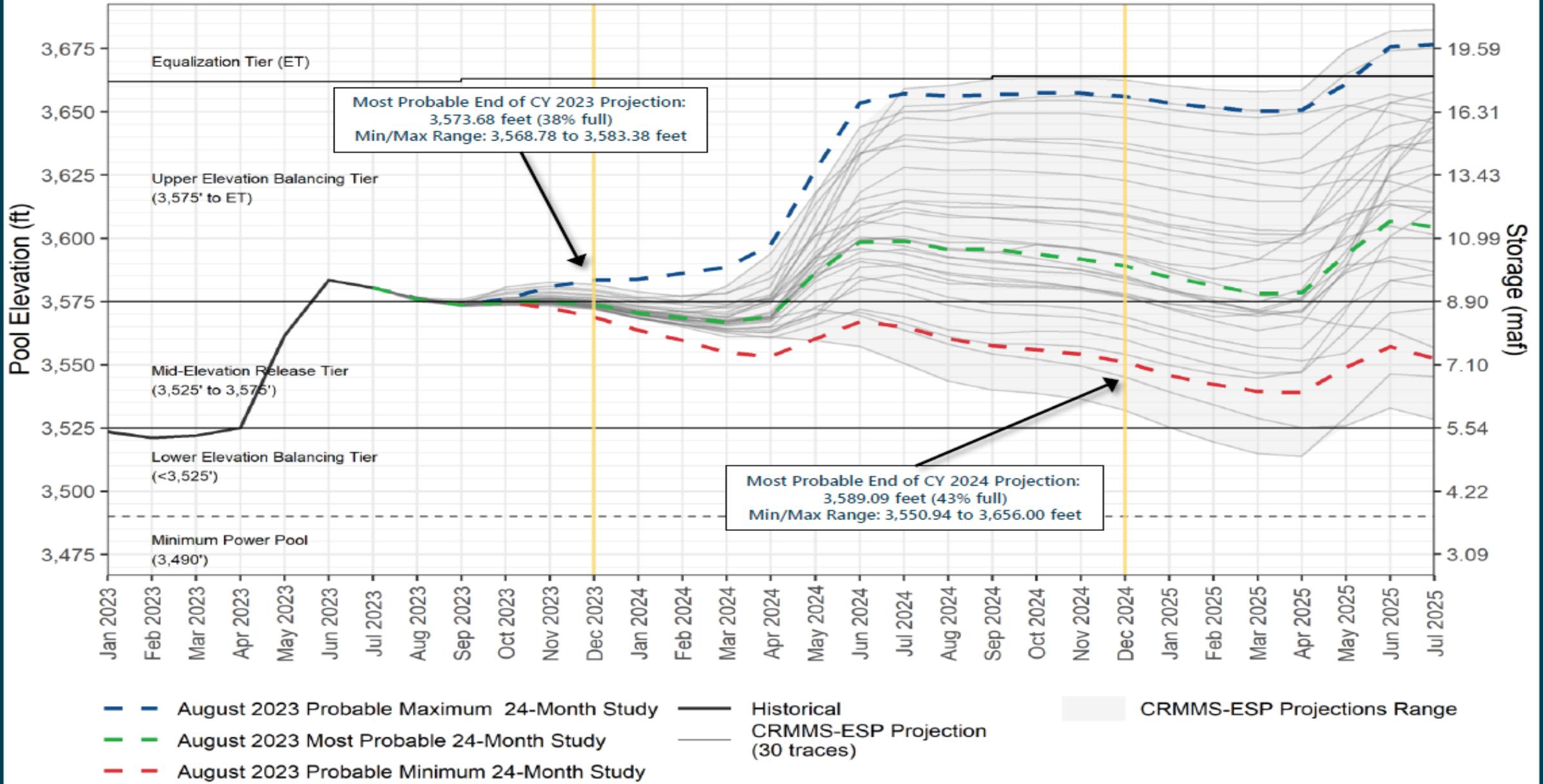
# Lee Ferry Natural Flow



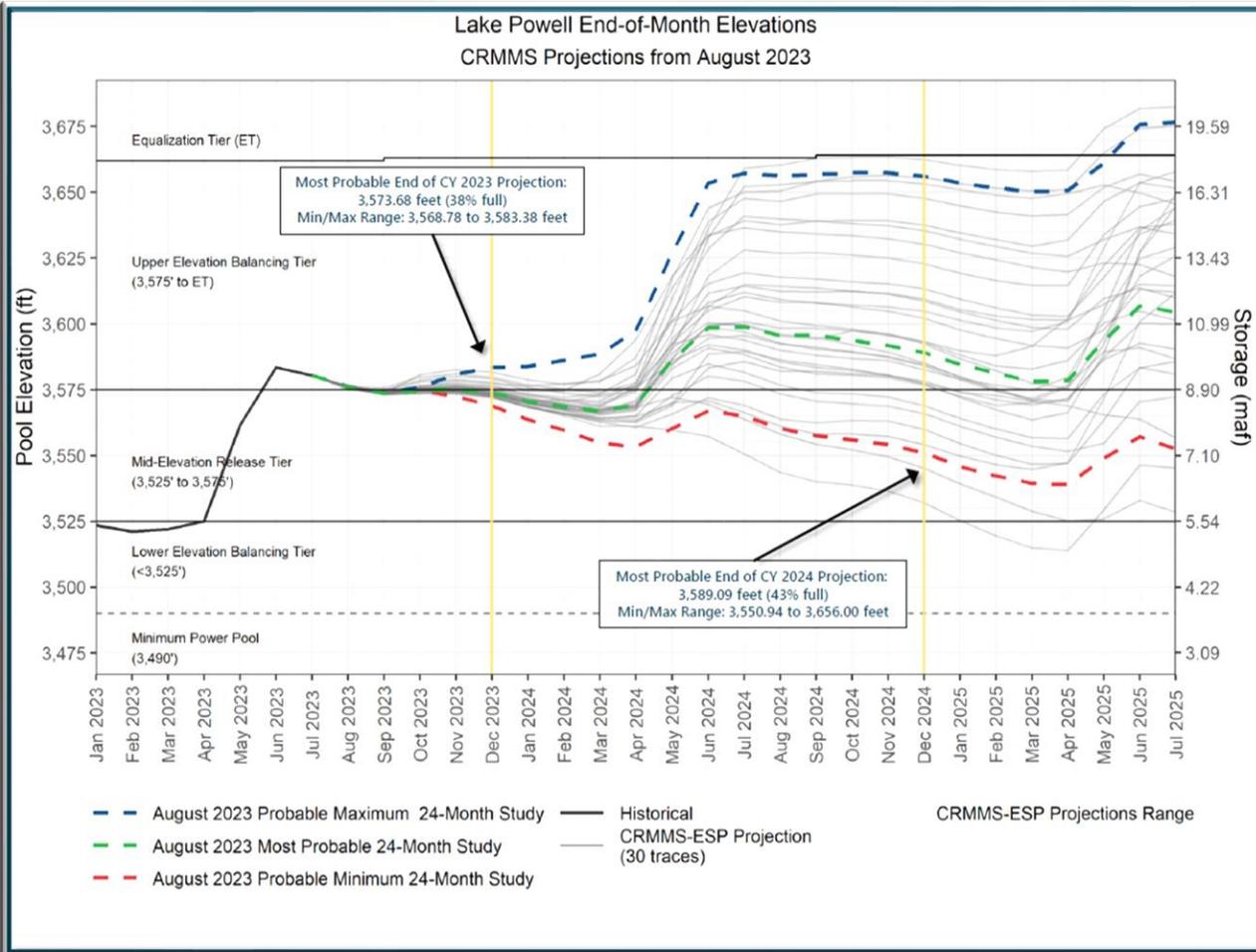
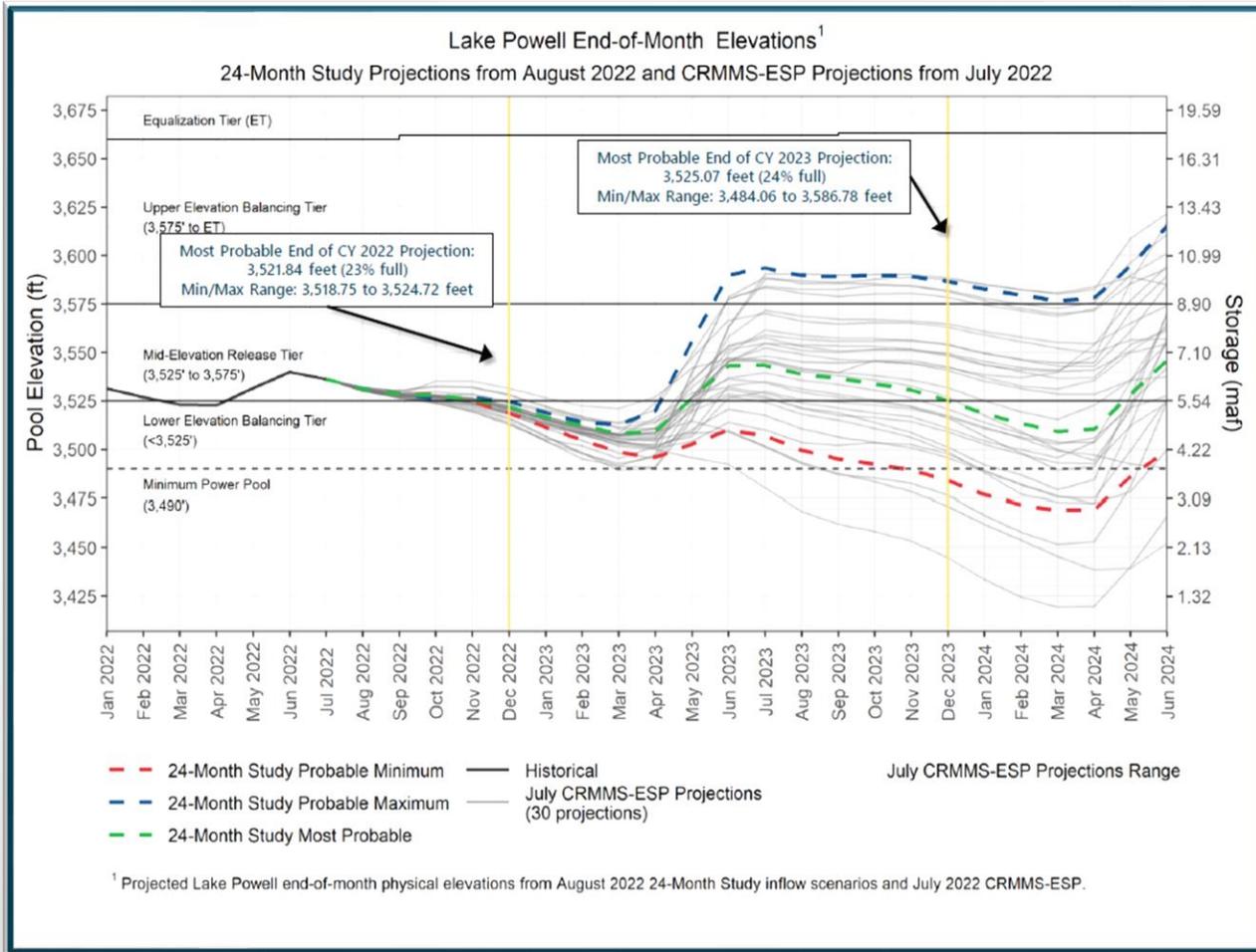
# August 2023 24 Month Study

- Determines the tiers for the coordinated operation of Lakes Powell and Mead for 2024
  - Establishes the Lake Powell release for water year 2024.
  - Establishes Lower Basin shortages and reductions for calendar year 2024.
  - Also provides projections for 2025, but they are very uncertain due to high variability in water supply.
- Lake Powell
  - Lake Powell will operate in the Mid-Elevation Release Tier in water year 2024.
  - Under this tier, Lake Powell will release 7.48 MAF without the potential for a mid-year adjustment in April 2024.
  - Under the most probable scenario, shows Lake Powell moving into the Upper elevation Balancing Tier in water year 2025 with a projected balancing release of 8.23 MAF to 9.0 MAF.
  - Water Year 2023 releases approx. 8.86 MAF.

# Lake Powell End-of-Month Elevations CRMMS Projections from August 2023



# Comparison with August 2022 24 Month Study

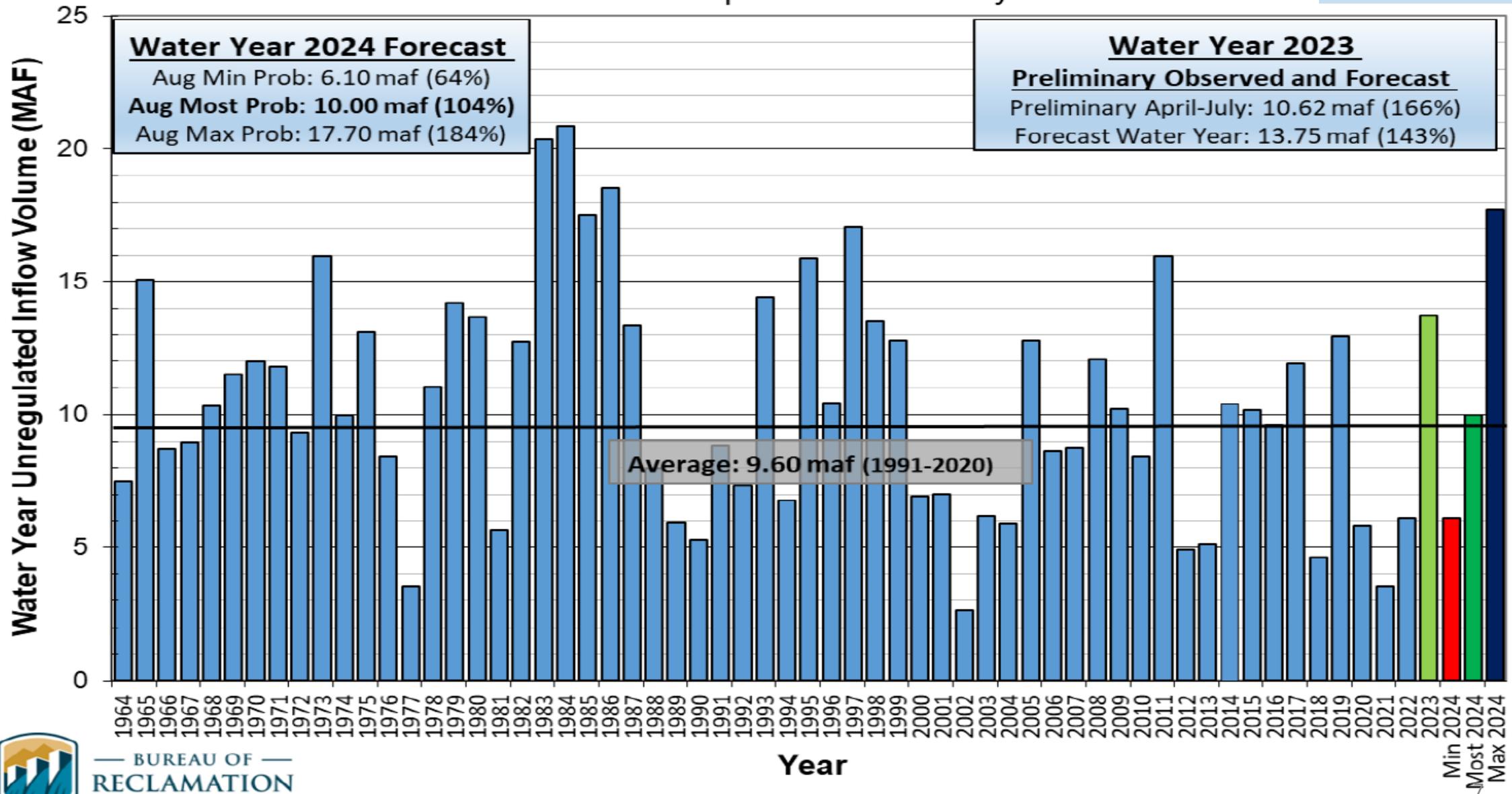


# Lake Powell Unregulated Inflow

## Water Year 2023 and 2024 Forecast (issued August 1)

### Comparison with History

April 2023 Most Prob:  
14.47 maf



BUREAU OF RECLAMATION

Year

Min 2024  
Most Prob 2024  
Max 2024

# Lee Ferry Flow

<b>End of Water Year</b>	<b>Historic Flow at Lee Ferry (maf)</b>	<b>10-Year Progressive Flow at Lee Ferry (kaf)</b>
2012	9.542	89,166
2013	8.289	90,277
2014	7.59	89,519
2015	9.157	90,282
2016	9.138	90,913
2017	9.17	91,661
2018	9.171	91,653
2019	9.264	92,511
2020	8.436	92,509
2021	8.293	88,049
2022	7.083	85,590
2023*	8.86	86,162
2024*	7.48	86,052

\* Projections

# Historic Flow at Lee Ferry

Art. III (d) - Upper Basin states will not cause the flow at Lee Ferry to be depleted below an aggregate of 75,000,000 acre-feet for any period of ten consecutive years.

Year	Progressive Ten-Year Total	Notes/rank
2023	86.16 MAF	Middle of the road
2010	84.78 MAF	At 82.5 MAF, differences in interpretation of Law of River implicated
1987	131.75 MAF	Highest - following flooding in mid-80s
1972	75.31 MAF	Lowest - during filling of Lake Powell after construction

# Lake Mead

- Lake Mead's projected January 1, 2024, elevation is 1,065.27 feet – about 10 feet below the Lower Basin shortage determination trigger of 1,075.
- Lake Mead will operate in a Level 1 Shortage Condition for calendar year 2024. Last year was a Level 2 Shortage Condition. The required shortage reductions and contributions:
  - Arizona: 512,000 acre-feet, which is approximately 18% of the state's annual apportionment.
  - Nevada: 21,000 acre-feet, which is 7% of the state's annual apportionment.
  - Mexico: 80,000 acre-feet, which is approximately 5% of the country's annual allotment.
- Lake Mead projections include updated water orders to reflect additional conservation efforts and new completed system conservation agreements.

# 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	<b>Lower Basin States + Mexico</b>	AZ	NV	CA	Mexico	AZ Total	NV Total	CA Total	Lower Basin States Total	Mexico Total	<b>Lower Basin States + Mexico</b>
1,090 - 1,075	0	0	0	<b>0</b>	192	8	0	41	192	8	0	200	41	<b>241</b>
1,075 - 1,050	320	13	50	<b>383</b>	192	8	0	30	512	21	0	533	80	<b>613</b>
1,050 - 1,045	400	17	70	<b>487</b>	192	8	0	34	592	25	0	617	104	<b>721</b>
1,045 - 1,040	400	17	70	<b>487</b>	240	10	200	76	640	27	200	867	146	<b>1,013</b>
1,040 - 1,035	400	17	70	<b>487</b>	240	10	250	84	640	27	250	917	154	<b>1,071</b>
1,035 - 1,030	400	17	70	<b>487</b>	240	10	300	92	640	27	300	967	162	<b>1,129</b>
1,030 - 1,025	400	17	70	<b>487</b>	240	10	350	101	640	27	350	1,017	171	<b>1,188</b>
<1,025	480	20	125	<b>625</b>	240	10	350	150	720	30	350	1,100	275	<b>1,375</b>

2024 Reductions + Contributions



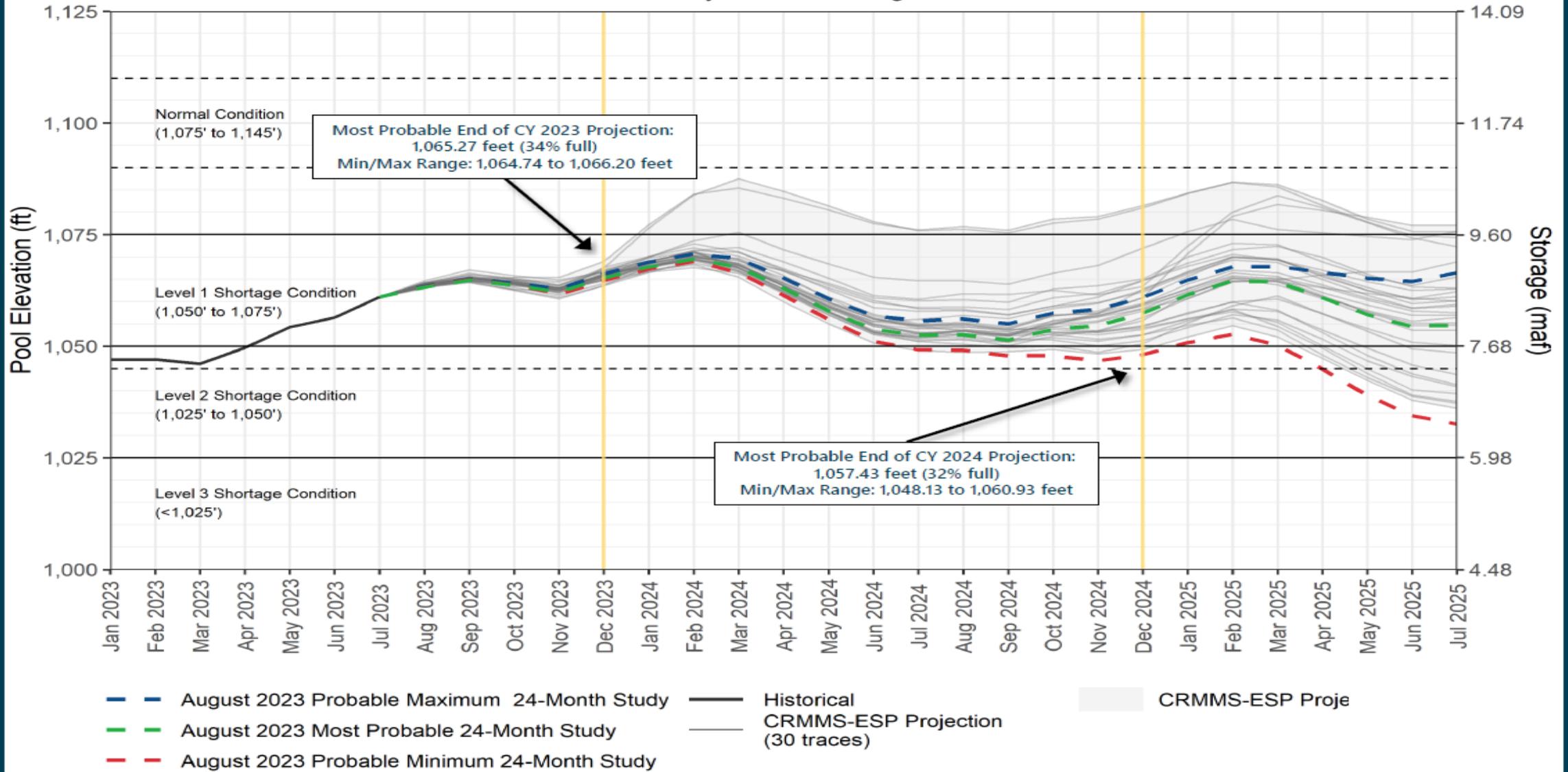
2024 Reductions + Contributions



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 CRMMS Projections from August 2023



# Lower Basin Alt. 3 Plan

- Proposed Lower Basin Plan
  - Conserve an additional 1.5 MAF by the end of 2024, and 3 MAF total by the end of 2026.
  - Additional conservation achieved primarily through system conservation projects (IRA funding), but also through ICS creation, unused apportionment, or other conservation.
  - Approximately 1 MAF of LB contracts executed. 1.3 to 1.4 MAF still require execution. IID proposal is 800 KAF.

<b>State</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>4-year Total</b>
<b>California</b>	392,000	434,000	428,000	346,000	1,600,000
<b>Arizona</b>	379,662	376,062	340,062	20,000	1,115,786
<b>Nevada</b>	75,000	75,000	70,000	65,000	285,000
<b>Total</b>	846,662	885,062	838,062	431,000	3,000,786