

Hydrology Report – June 2023

UPDATE ON DISCUSSIONS

- **General Update on Negotiations for Near Term Actions**

Reclamation released the draft SEIS on April 11th, which considered three alternatives. One alternative was a No Action Alternative which continues implementation of the current agreements and operations through 2026. The other two alternatives propose modifying the release volumes from Glen Canyon Dam with additional shortages to Lower Basin States. On May 22, 2023, the Lower Basin States submitted to Reclamation a Lower Basin States proposed action alternative for consideration. Concurrently, the Seven Basin States submitted a letter to Reclamation requesting that it suspend the current Draft SEIS comment period in order to provide time for Reclamation to fully consider the Lower Basin Proposed Action Alternative. On that same day, Reclamation agreed to temporarily withdraw the draft SEIS and to publish an updated SEIS for public comment for the Lower Basin to include the Lower Basin Proposed Action Alternative.

The Lower Basin Proposed Action Alternative outlines an agreement amongst the Lower Basin States to conserve at least 3 million acre-feet of system water through the end of 2026, at which point the existing guidelines will expire and be replaced with new long-term operating guidelines. Of the proposed 3 million acre-feet of system water to be conserved, at least 1.5 million acre-feet will be conserved by the end of calendar year 2024. Further, up to 2.3 million acre-feet of water will be federally compensated with funds from the Federal Inflation Reduction Act. The Lower Basin Proposed Action Alternative also includes a commitment to protect 1,000 feet elevation in Lake Mead. The Basin States are continuing discussions with Reclamation in furtherance of analyzing the Lower Basin Proposed Action Alternative.

HYDROLOGY UPDATE

- **Upper Basin precipitation and Temperature**

May had below average precipitation at 68% of average which decreased the cumulative precipitation to 115% of average for the year. The National Weather Service is forecasting upper basin temperatures to be below average with above average precipitation for the next 8 to 14 days.

- **Upper Basin Snowpack and runoff**

Upper basin snowpack peaked on April 7, 2023, with 24.1 inches of snow water equivalent or 155% of the seasonal median. The current projected runoff from this snowpack year is 144% of average. The last two months of below average precipitation has decreased the runoff forecast by about 600 thousand acre-feet since April.

- **Current reservoir status**

As of June 12, 2023, Lake Mead is at an elevation of 1,054.9 feet and has about 8.0 million acre-feet in storage (31% capacity). As of June 12, 2023, Lake Powell is at an elevation of 3,572.6 feet and has about 8.7 million acre-

feet in storage (36% capacity). Since this time last year, Lake Mead has increased in elevation by about 9 feet and Lake Powell has increased by about 33 feet. Total system storage for the upper and lower basin is around 23.8 million acre-feet (41% capacity).

- **2023 Reservoir Operations and Drought Operations**

In calendar year 2023, there is a Level 2a shortage under the 2007 Guidelines and there is a required Drought Contingency Plan contribution for Nevada and Arizona. Accordingly, in 2023, Nevada’s consumptive use will be reduced by 17,000 acre-feet under the 2007 Interim Guidelines and Nevada will make a Drought Contingency Plan contribution of 8,000 acre-feet. Arizona and Mexico are also required to take shortage and make a water savings contribution in 2023. Those amounts are significantly larger than Nevada’s obligations. The total combined volumes for Arizona, Nevada, and Mexico are 721,000 acre-feet in calendar year 2023, which will save the equivalent of about 10 feet in elevation in Lake Mead. The reductions and contributions for calendar year 2023 are highlighted in Figure 1.

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 - 1,050	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

Figure 1. The reductions and contributions for calendar year 2023.

- **Water Use in Southern Nevada**

Southern Nevada’s consumptive use in January through April of 2023 was 38,595 acre-feet, which is a 31.1% decrease in water use compared to last year. In 2022, southern Nevada consumed less Colorado River water than its 300,000 acre-feet entitlement: specifically, 55,393 (18%) acre feet less. The Southern Nevada Water Authority stored the unused water in Lake Mead to help maintain critical lake levels. This stored water is accessible to southern Nevada in the future if necessary. The Southern Nevada Water Authority has been

aggressively reducing consumptive uses through turf removal and conservation programs allowing thus far over 2.3 million acre-feet in total to be stored for future use.

- **Reclamation’s Lake Mead Projection ²**

Reclamation uses computer models to forecast reservoir elevations based on planned water use and anticipated runoff. Figure 2 shows that the May 24 Month Study is forecasting Lake Mead to end the calendar year between 1,067.3 and 1,061.3 feet in elevation.

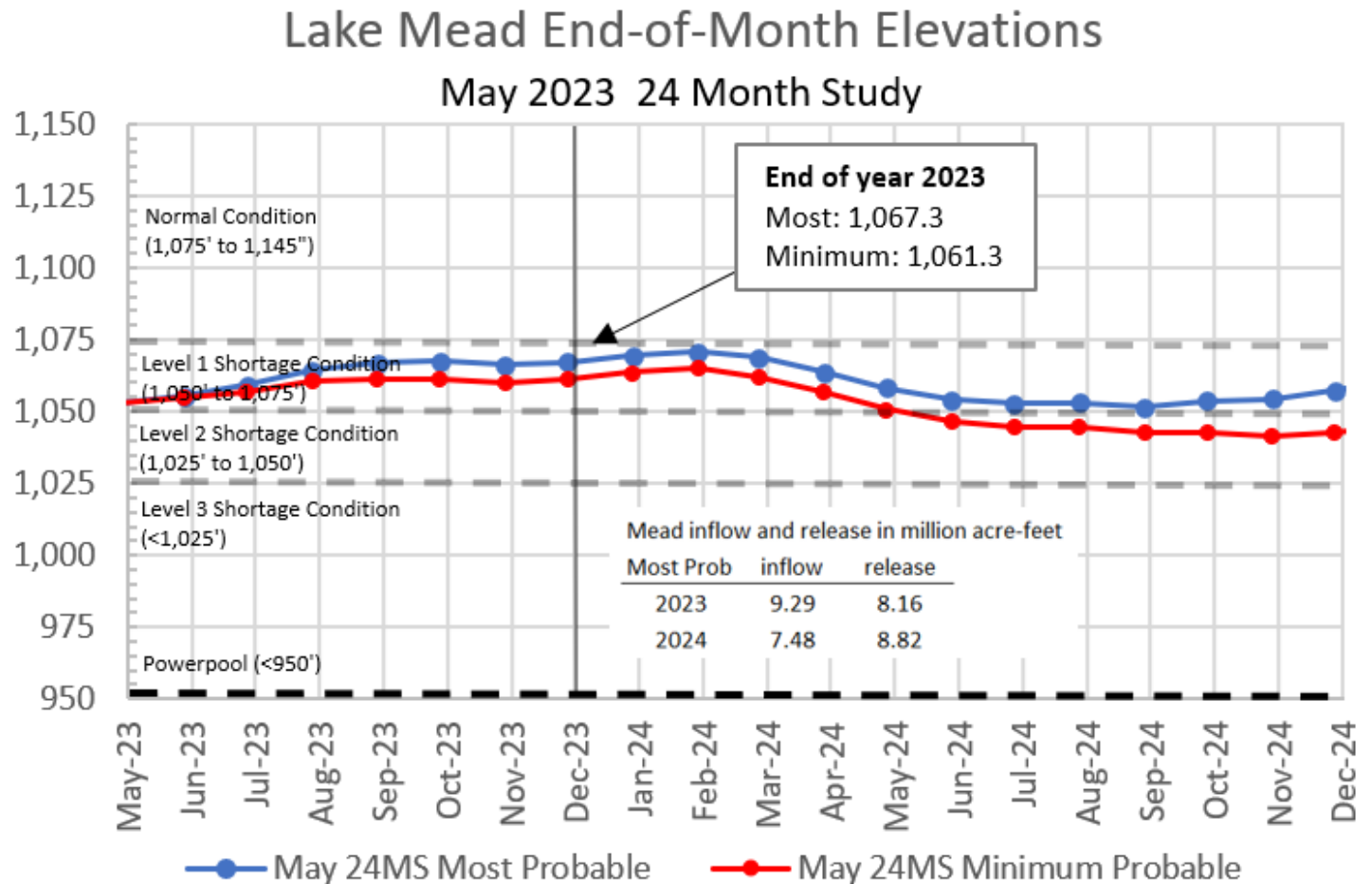


Figure 2. Reclamations May 24 Month Study projections for Lake Mead.

- **Reclamation’s Lake Powell Projection ²**

Reclamations May 24 Month Study is forecasting Lake Powell’s elevation to be between 3,573.2 and 3,565.8 feet by the end of the year (Figure 3).

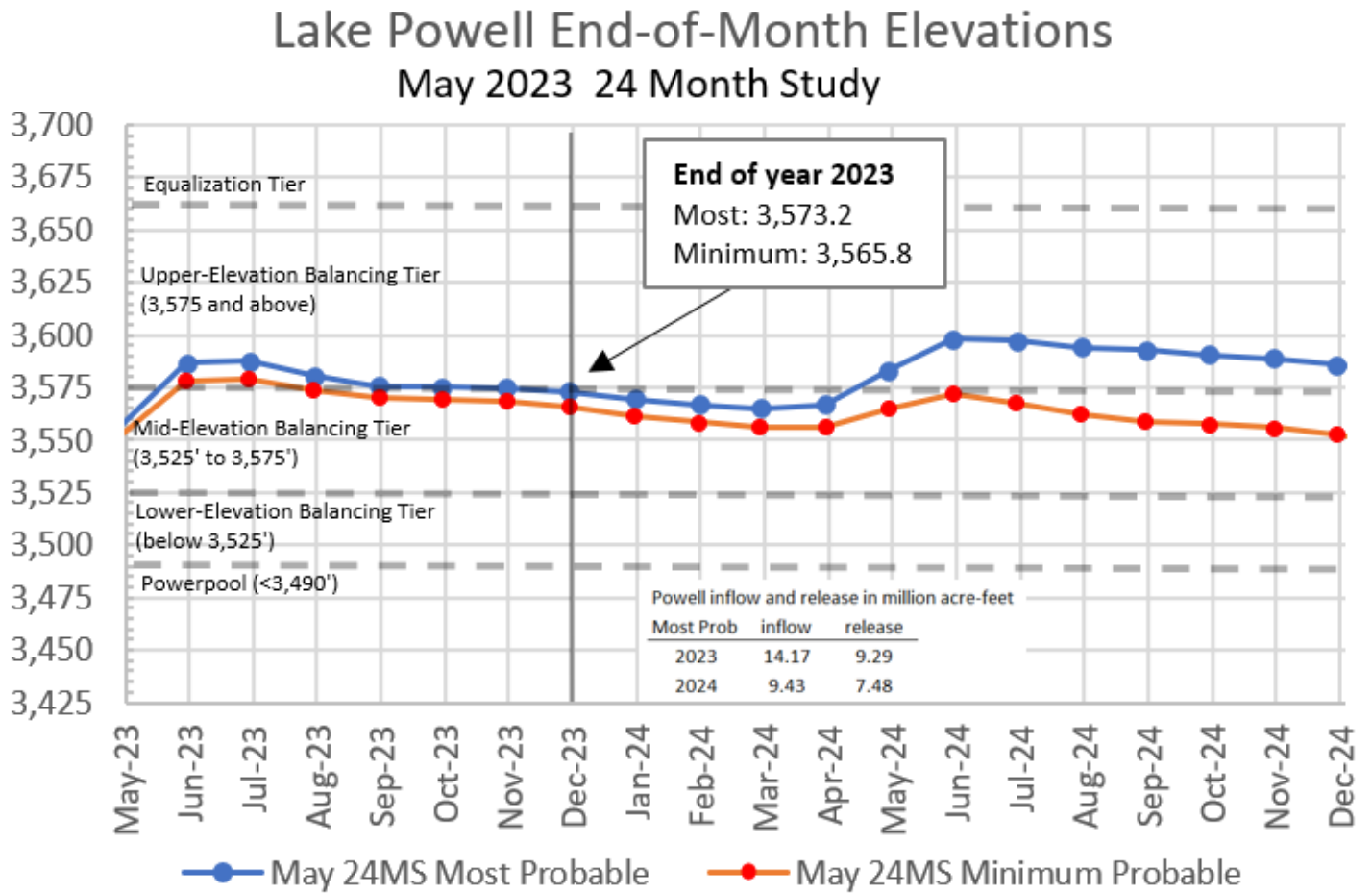


Figure 3. Reclamations May 24 Month Study projections for Lake Powell.

² Reclamation modeling assumes the current operational guidelines and planned conservation activities. Forecasts could improve by implementing additional actions.

Colorado River Commission of Nevada

Hydrology and River Updates

Warren Turkett

June 13, 2023

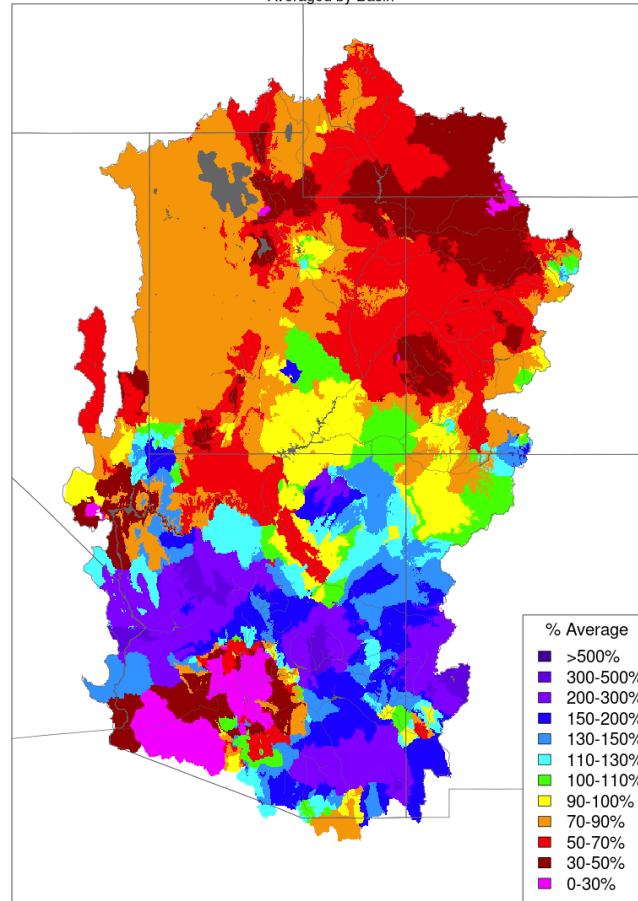


Precipitation and Temperature



Monthly Precipitation - May 2023

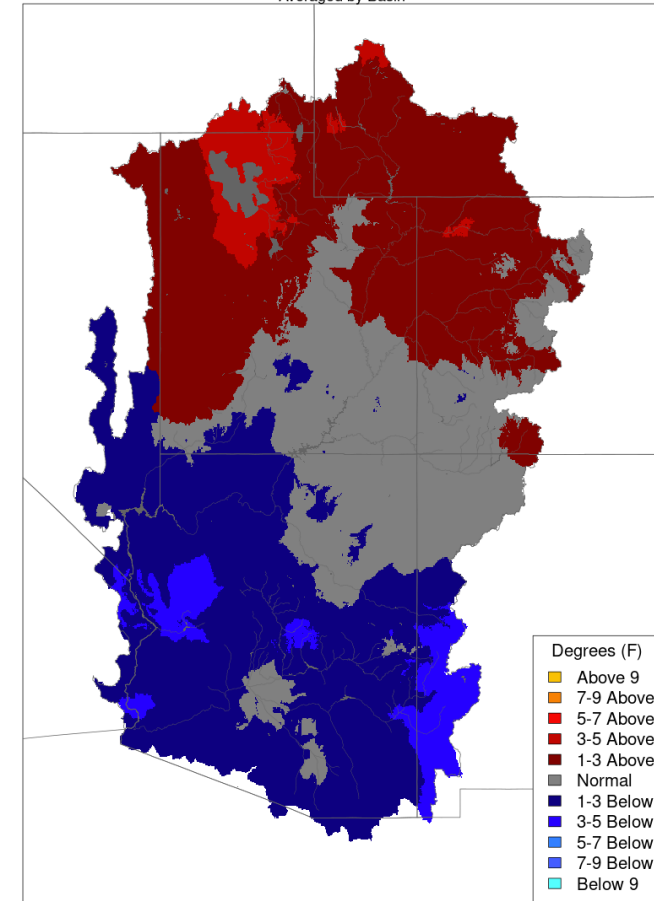
Averaged by Basin



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

Max Temp - Monthly Deviation - May 2023

Averaged by Basin



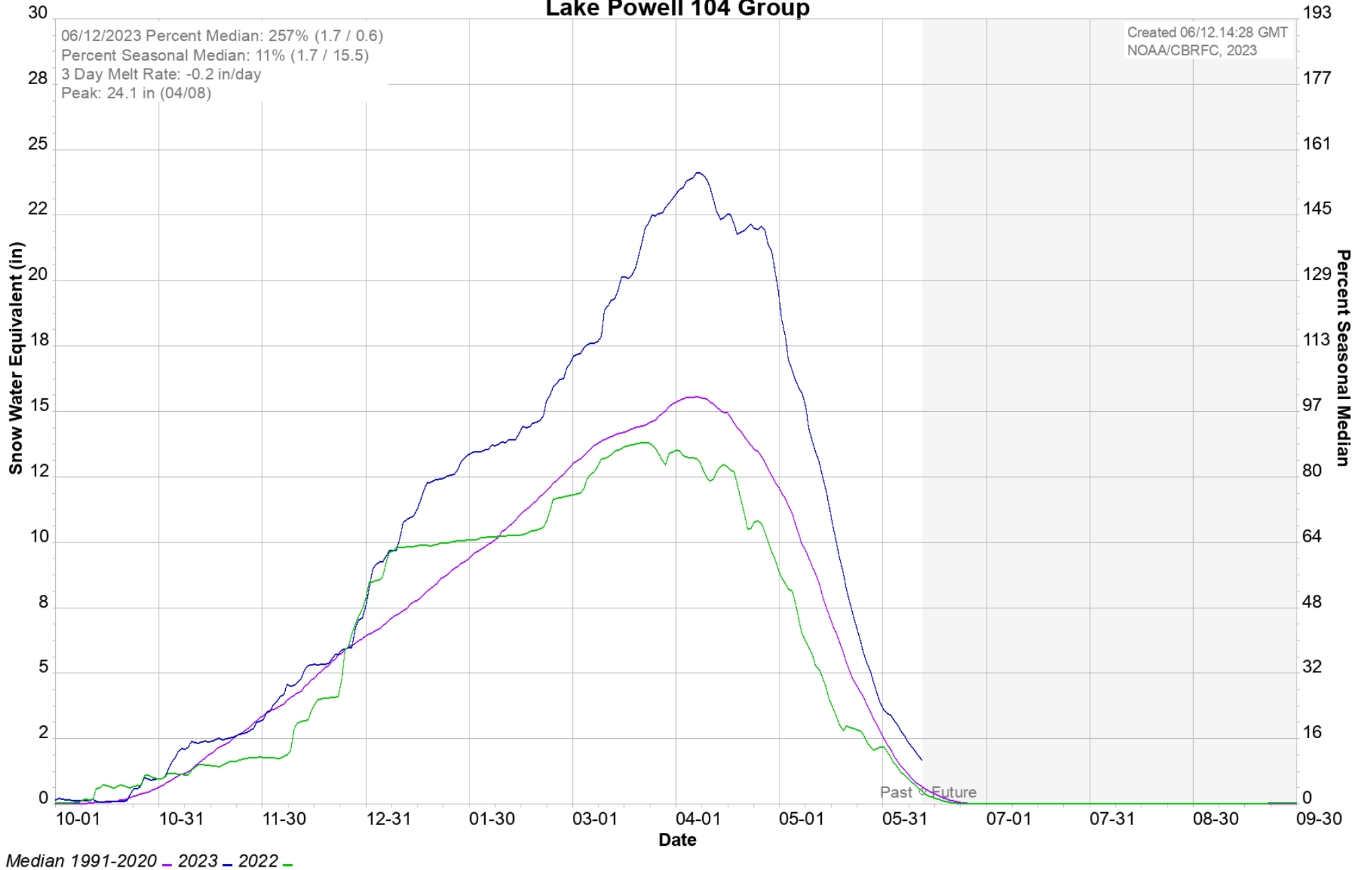
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Lake Powell %Average Precipitation Water Year 2023

Area	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Water Year
UC-Powell	84	82	152	170	102	183	67	68	115



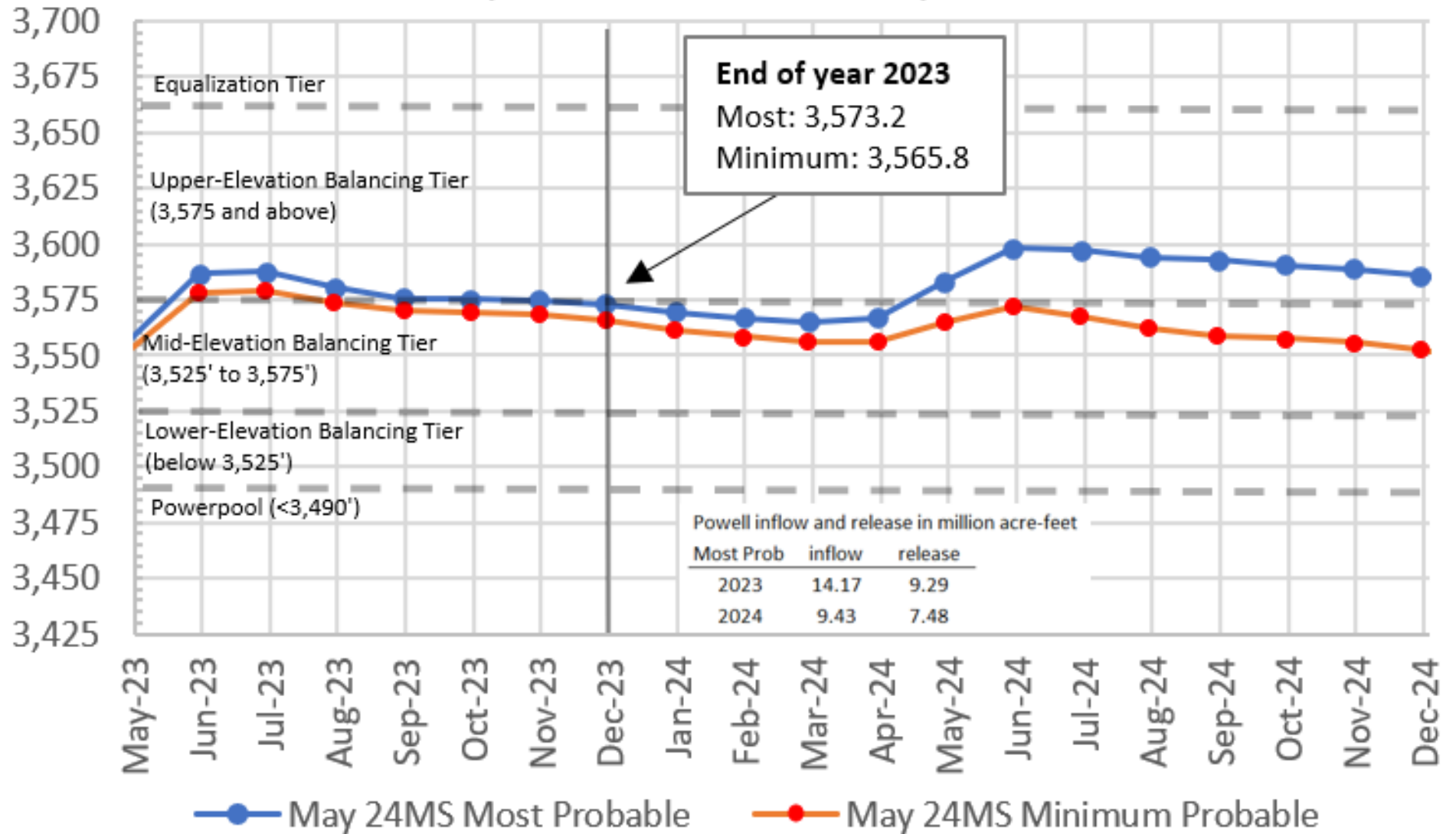
Colorado Basin River Forecast Center Lake Powell 104 Group





Lake Powell End-of-Month Elevations

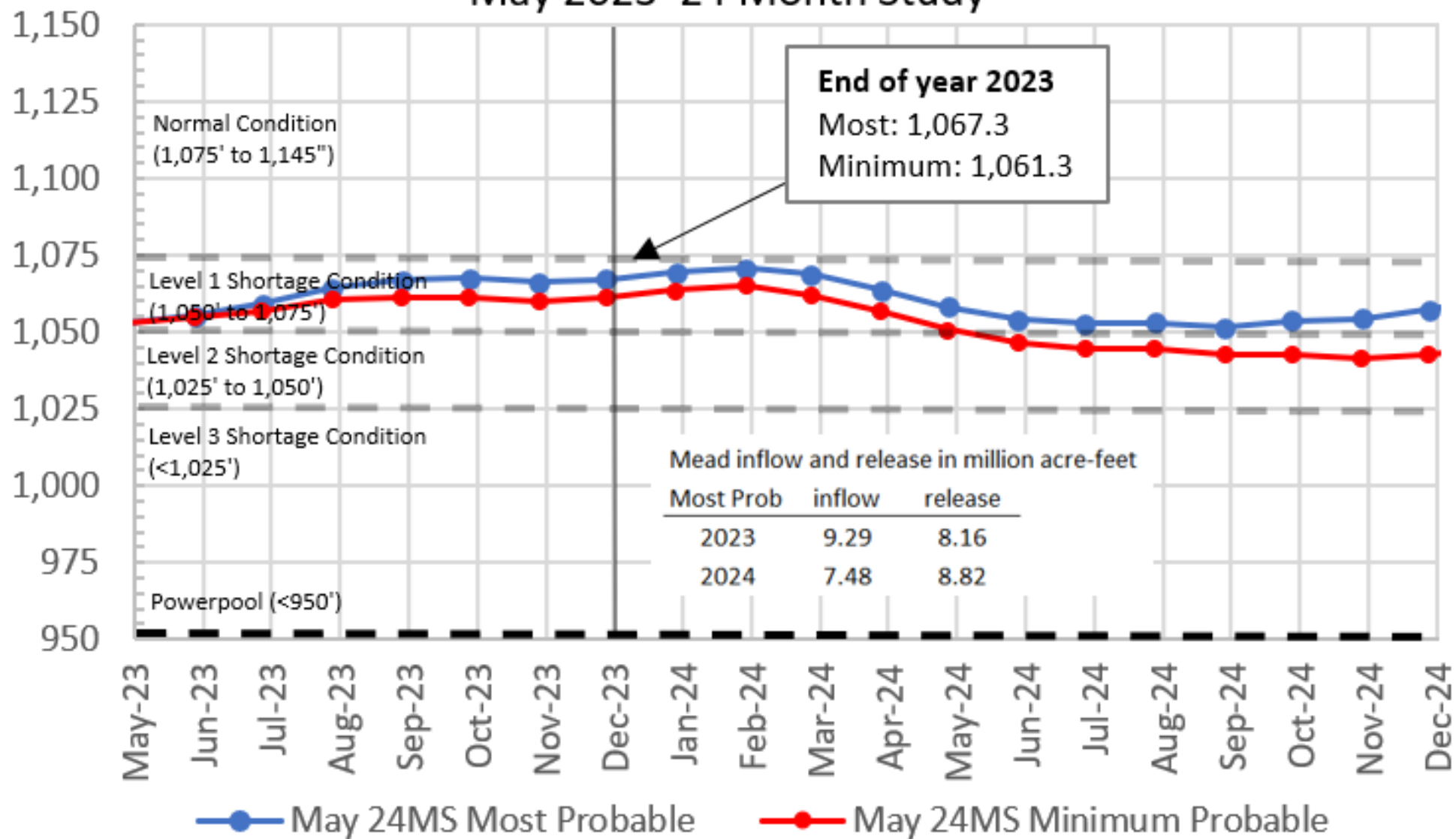
May 2023 24 Month Study





Lake Mead End-of-Month Elevations

May 2023 24 Month Study



Negotiations and Updates

Supplemental Environmental Impact Statement for 2007 Guidelines

Reclamation suspended the comment period for the Draft Environmental Impact Statement on May 22, 2023, to consider and analyze a new Lower Basin Proposed Action Alternative (LB Plan) submitted to Reclamation on that same day. The LB Plan includes the following:

- A commitment of the Lower Basin States to conserve at least 3 million acre-feet of water through the end of 2026 with 1.5 million acre-feet of that volume to be conserved by the end of the 2024.
- Up to 2.3 million acre-feet of water will be federally compensated with funds generated from the Federal Inflation Reduction Act.
- A commitment to protect 1000 ft. in Lake Mead.

The Seven Basin States and Reclamation are continuing discussions in furtherance of analyzing the LB Plan.