COLORADO RIVER BASIN STATUS UPDATE

Presented to:

Arizona Water Banking Authority

December 1, 2021

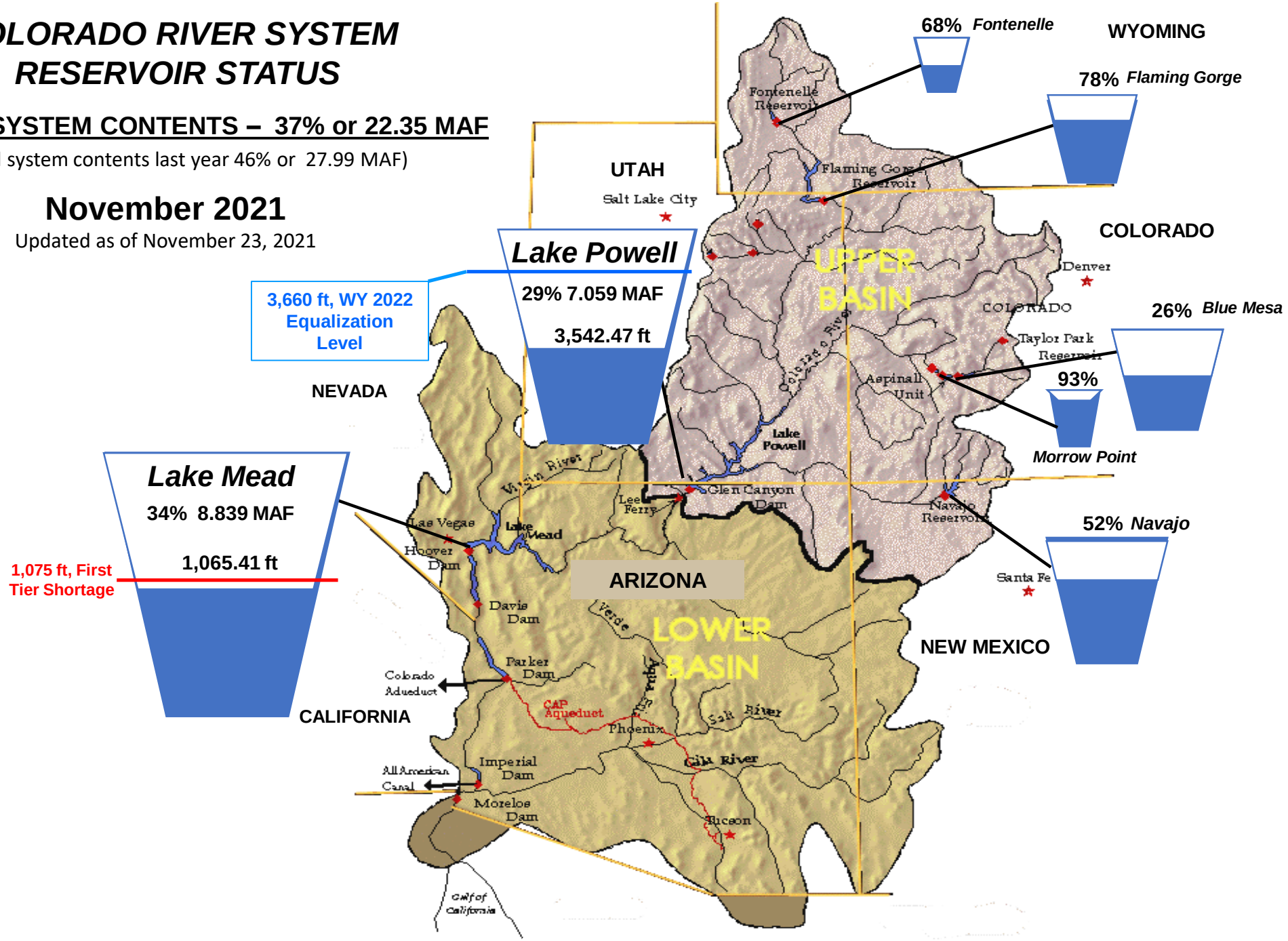
COLORADO RIVER SYSTEM RESERVOIR STATUS

TOTAL SYSTEM CONTENTS – 37% or 22.35 MAF

(Total system contents last year 46% or 27.99 MAF)

November 2021

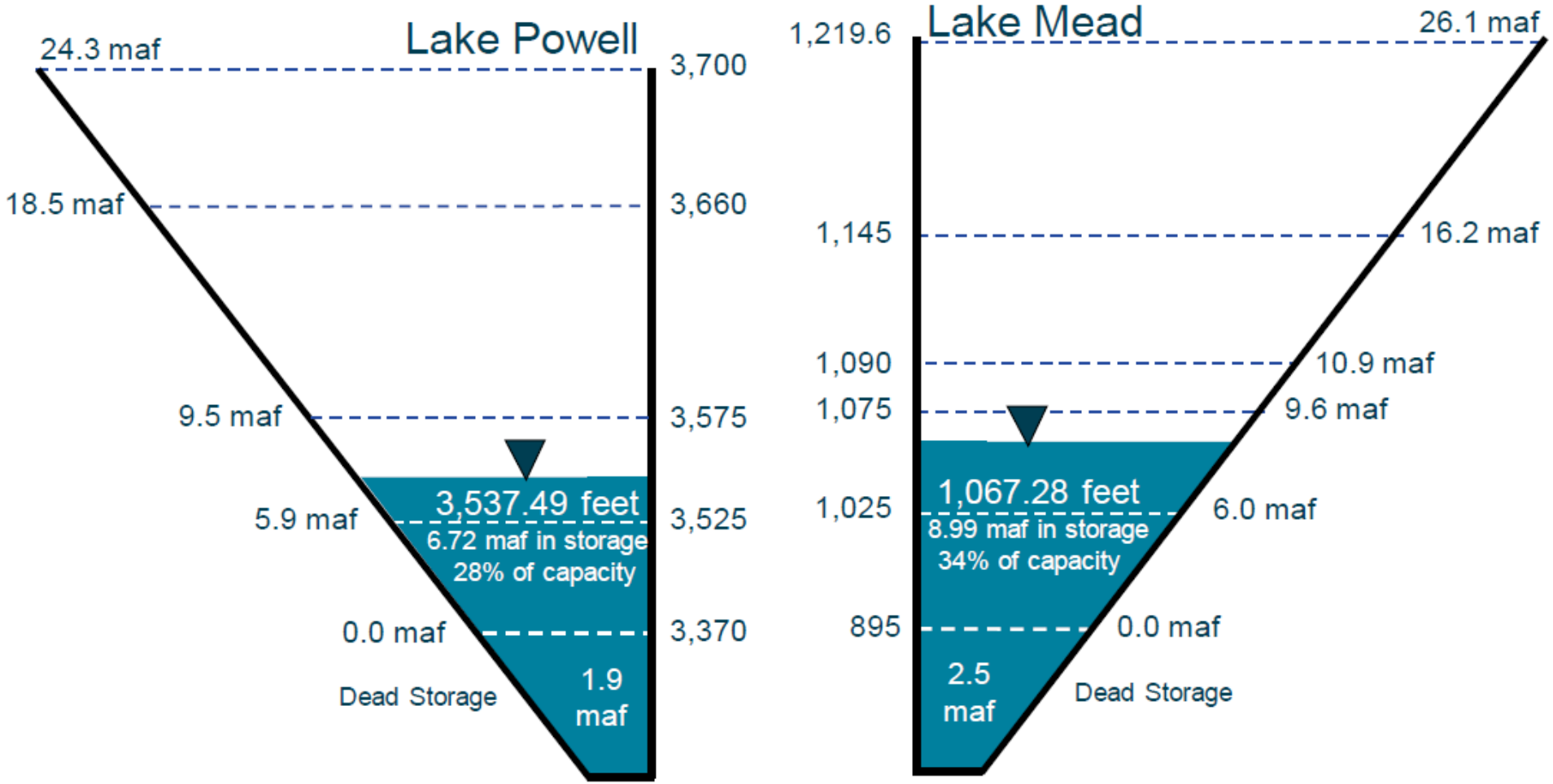
Updated as of November 23, 2021



End of Calendar Year 2021 Projections

November 2021 24-Month Study Most Probable Inflow Scenario[1]

Based on a Lake Powell release of 8.23 maf in WY 2021 and 7.48 maf in WY 2022



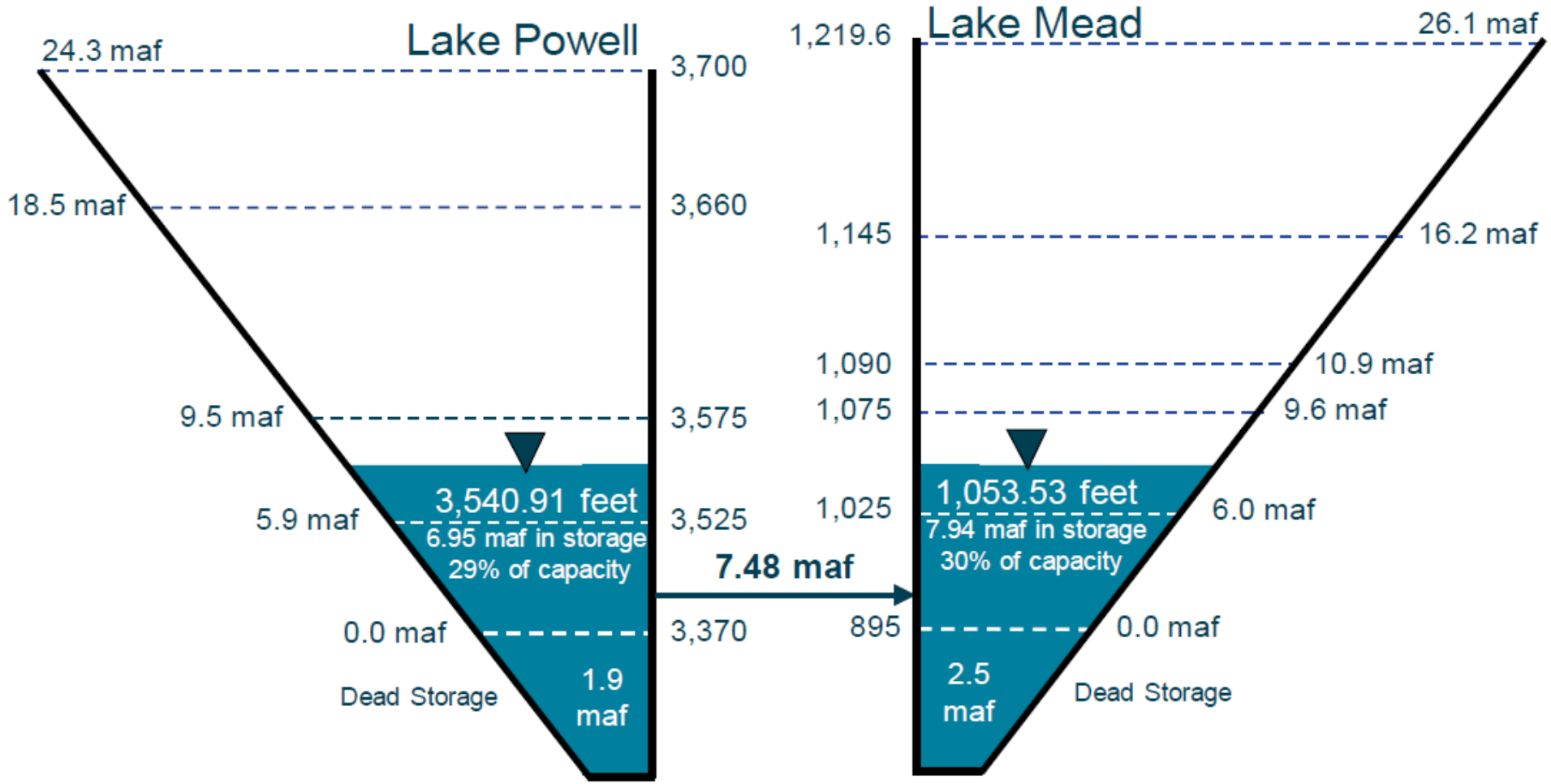
Not to Scale

[1] WY 2022 unregulated inflow into Lake Powell is based on the CBRFC forecast dated 11/3/21.

End of Water Year 2022 Projections

November 2021 24-Month Study Most Probable Inflow Scenario[1]

Based on a Lake Powell Unregulated Inflow Forecast of 7.80 maf (81% of average)

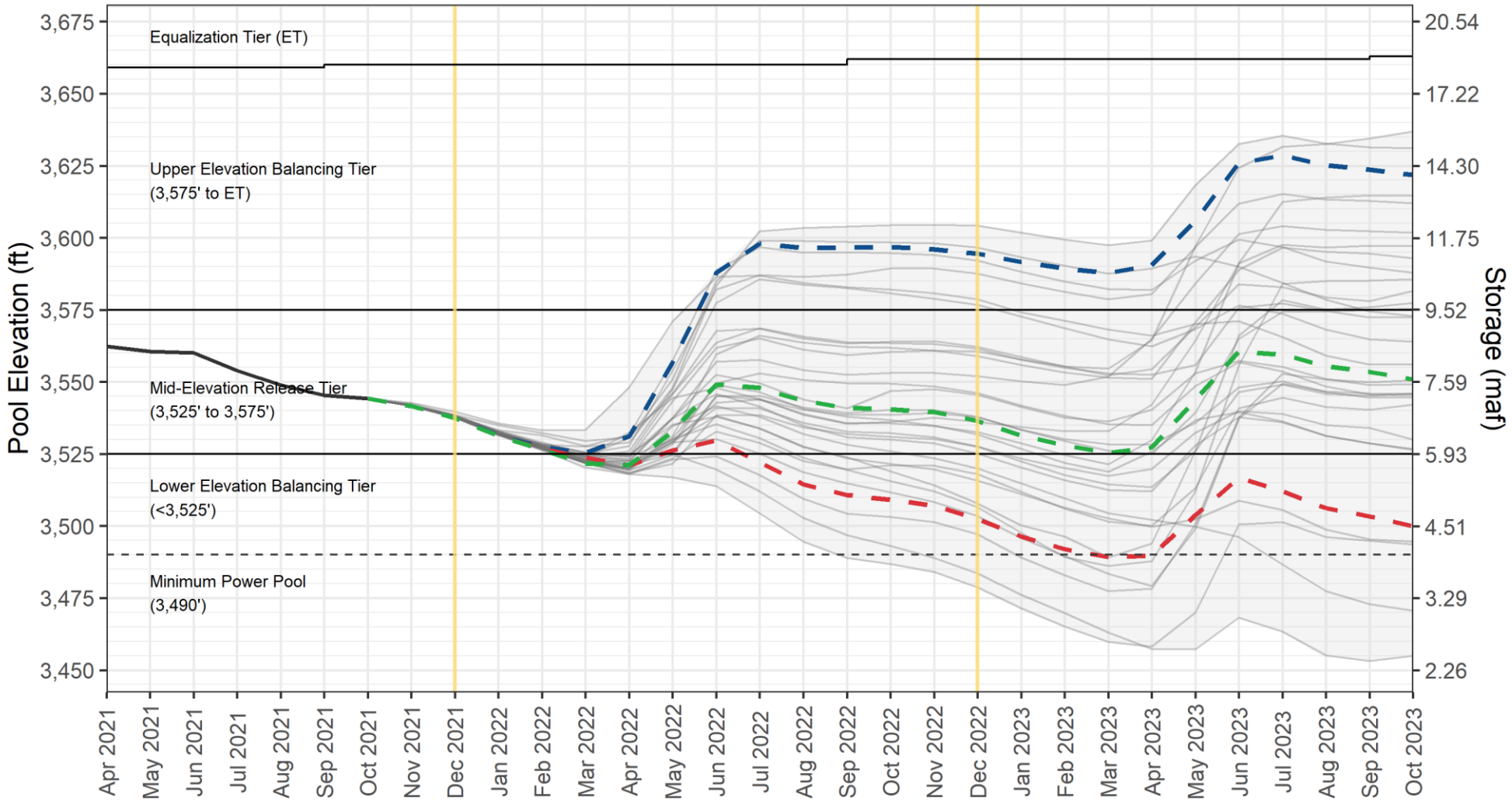


Not to Scale

[1] WY 2022 unregulated inflow into Lake Powell is based on the CBRFC forecast dated 11/3/21.

Lake Powell End-of-Month Elevations

CRMMS Projections from November 2021



Most Probable End of CY 2021 Projection:
3,537.49 feet (28% full)
Min/Max Probable Range:
3,537.45 to 3,537.45 feet

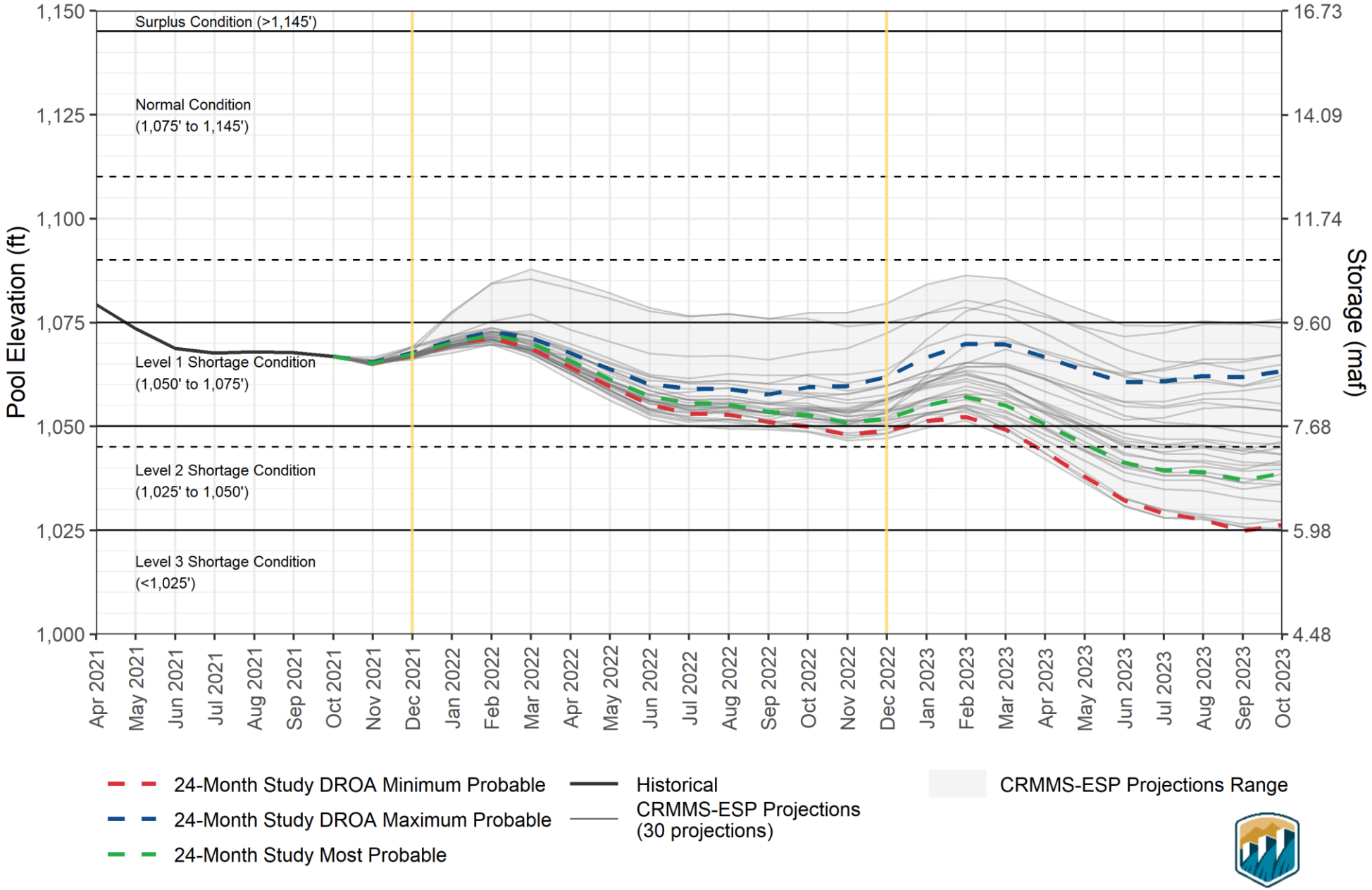
Most Probable End of CY 2022 Projection:
3,536.40 feet (27% full)
Min/Max Probable Range:
3,502.47 to 3,594.44 feet

- 24-Month Study DROA Minimum Probable
- 24-Month Study DROA Maximum Probable
- 24-Month Study Most Probable
- Historical
- CRMMS-ESP Projections (30 projections)
- CRMMS-ESP Projections Range

BUREAU OF RECLAMATION

Lake Mead End-of-Month Elevations

CRMMS Projections from November 2021



Most Probable End of CY 2021 Projection:
1,067.28 feet (34% full)
Min/Max Probable Range:
1,067.03 to 1,067.74 feet

Most Probable End of CY 2022 Projection:
1,051.76 feet (30% full)
Min/Max Probable Range:
1,048.89 to 1,061.95 feet

BUREAU OF RECLAMATION

Lower Basin – Lake Mead
Percent of Traces with Event or System Condition
Results from Corrected August 2021 CRSS without Upper Basin Drought Response Operations (values in percent)

Event or System Condition	2022	2023	2024	2025	2026
Surplus Condition – any amount (Mead ≥ 1,145 ft)	**0**	**0**	**0**	**0**	**0**
Surplus – Flood Control	0	0	0	0	0
Normal or ICS Surplus Condition (Mead < 1,145 and > 1,075 ft)	**0**	**6**	**3**	**0**	**9**
Recovery of DCP ICS / Mexico's Water Savings (Mead >/≥ 1,110 ft)	0	0	0	0	0
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,090 and > 1,075 ft)	0	6	3	0	3
Shortage Condition – any amount (Mead ≤ 1,075 ft)	**100**	**94**	**97**	**100**	**91**
Shortage / Reduction – 1st level (Mead ≤ 1,075 and ≥ 1,050)	*100*	*78*	*28*	*25*	*16*
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,075 and > 1,050 ft)	100	78	28	25	16
Shortage / Reduction – 2nd level (Mead < 1,050 and ≥ 1,025)	*0*	*16*	*63*	*34*	*34*
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,050 and > 1,045 ft)	0	13	3	3	13
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,045 and > 1,040 ft)	0	3	13	9	0
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,040 and > 1,035 ft)	0	0	9	6	0
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,035 and > 1,030 ft)	0	0	25	13	9
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,030 and ≥/> 1,025 ft)	0	0	13	3	13
Shortage / Reduction – 3rd level (Mead < 1,025)	*0*	*0*	*6*	*41*	*41*
DCP Contribution / Mexico's Water Savings (Mead </≤ 1,025 ft)	0	0	6	41	41

Notes:
[1] Modeled operations include the 2007 Interim Guidelines, Lower Basin Drought Contingency Plan, and Minute 323, including the Binational Water Scarcity Contingency Plan.
[2] Reservoir initial conditions on December 31, 2021 were simulated using the August 2021 Most Probable 24 Month Study.
[3] Stress Test Hydrology uses 32 hydrologic inflow sequences that resamples the observed natural flow record from 1988-2019 for 32 traces analyzed..
[4] Percentages shown in this table may not be representative of the full range of future possibilities that could occur with different modeling assumptions.
[5] Percentages shown may not sum to 100% due to rounding to the nearest percent.

BUREAU OF RECLAMATION

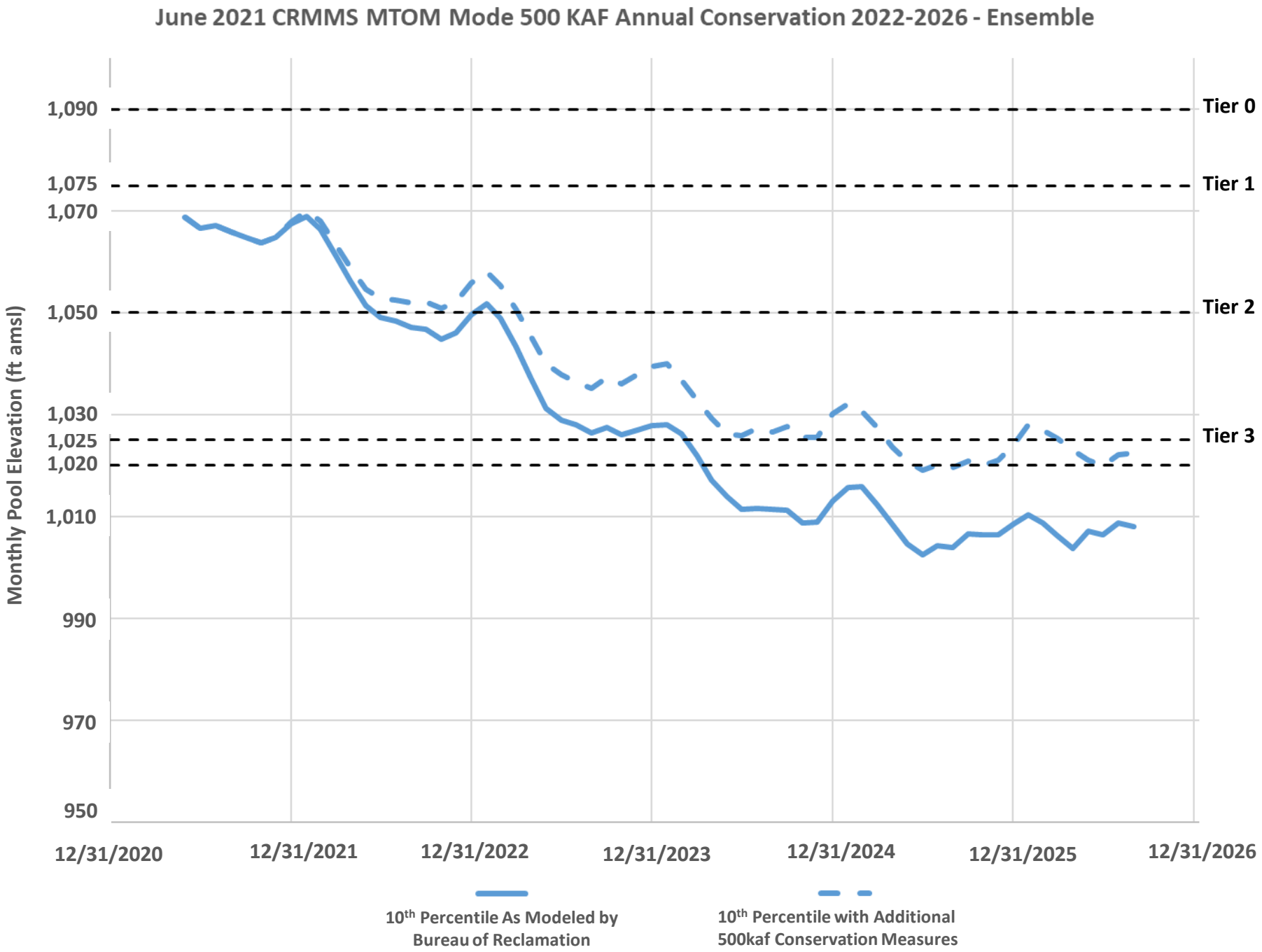
1,030’ Consultation

Exhibit 1 to the Lower Basin Drought Contingency Plan Agreement, Sec. V. B. 2, states in part:

- “…commitment to individual and collective action to avoid and protect against the potential for elevations in Lake Mead to decline to elevations **below 1,020’”**
- “…If any 24-Month Study for the minimum probable inflows projects that Lake Mead will be at or **below 1,030’** anytime within the succeeding two Years, the Secretary and Lower Division States shall consult and determine what additional measures will be taken” (emphasis added)
- August 2021 24-Month Study triggered this provision

Lower Basin Parties have been meeting since August to develop a plan for additional voluntary commitments to conserve/contribute additional water to Lake Mead beyond those in DCP - from Arizona, California, Nevada and the U.S.

- ADWR and CAP have been closely coordinating throughout



In order to protect the critical elevation of 1,020' in Lake Mead, the Lower Basin states modeled taking an additional annual 500kaf of conservation measures.

The blue solid line represents the Bureau of Reclamation's projected Lake Mead elevation from its June 2021 modeling exercise ('07 Interim Guidelines + DCP required contributions).

The blue dashed line represents the Lower Basin states' modeled results of '07 Interim Guidelines + DCP required contributions + additional annual 500kaf conserved in Lake Mead.

These planned actions significantly reduce the risk of Lake Mead falling below elevation 1,020' through the '07 Interim Guidelines and DCP period.

Lower Basin 500+ Plan

- Two-year plan, with expected ongoing activity through 2026
- Four types of voluntary activities
  - Additional ICS
  - Reduction in planned ICS releases
  - System Conservation
  - System Efficiency
- Funding commitments from AZ, CA, NV and the U.S.
- 2022 target volumes identified:
  - Arizona: ~223 KAF
  - California: ~215 KAF
  - Reclamation: ~62 KAF
- 2023 volumes under further development

Arizona Contributions to 500+ Plan

- Arizona's target of ~223 KAF anticipates participation from both on-River and CAP water users
  - Includes both tribal and non-tribal participants
  - ~30 KAF on-River
  - ~193 KAF from CAP water users
- All contributions will directly benefit Lake Mead, through System Water or Storage, including reduced release of ICS
- CAP and ADWR are providing funding, and have established guiding principles for Arizona's contributions:
  - **Voluntary**
  - **Temporary**
  - **Compensated**

Questions?

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Additional Resources

- Arizona Reconsultation Committee: https://new.azwater.gov/arc
- Colorado Basin River Forecast Center: https://www.cbrfc.noaa.gov/
- Lower Colorado Region River Operations: https://www.usbr.gov/lc/riverops.html
- Upper Colorado Region River Operations: https://www.usbr.gov/uc/water/index.html