Comparison of Current (January 2023) and Last Published (August 2022) CRMMS-ESP 5-Year Projections

Chance of Lake Powell Falling Below Critical Reservoir Elevations in any Month of the Water Year (WY)

	Run	WY 2023[1]	WY 2024	WY 2025	WY 2026	WY 2027[2]
Lake Powell less than 3,525 feet	August 2022	100%	50%	37%	30%	30%
	January 2023	**100%**	**37%**	**30%**	**23%**	**17%**
	Difference	0%	-13%	-7%	-7%	-13%
Lake Powell less than 3,490 feet (minimum power pool)	August 2022	10%	30%	20%	17%	13%
	January 2023	**N**	**10%**	**10%**	**20%**	**13%**
	Difference	-10%	-20%	-10%	3%	0%
Lake Powell less than 3,375 feet (dead pool = 3,370 feet)	August 2022	0%	0%	0%	0%	0%
	January 2023	**0%**	**0%**	**0%**	**0%**	**0%**
	Difference	0%	0%	0%	0%	0%

All results are computed based on projected physical elevations for Lake Powell.

[1] There is a negligible chance that Lake Powell will fall below 3,490 feet in WY 2023.

[2] For modeling purposes, simulated years beyond 2026 assume a continuation of the 2007 Interim Guidelines, the 2019 Colorado River Basin Drought Contingency Plans, and Minute 323, including the Binational Water Scarcity Contingency Plan. Except for certain provisions related to ICS recovery and Upper Basin demand management, operations under these agreements are in effect through 2026. Reclamation anticipates beginning a process in early 2023 to develop operations for post-2026, and the modeling assumptions described here are subject to change for the analysis to be used in that process.

Comparison of Current (January 2023) and Last Published (August 2022) CRMMS-ESP 5-Year Projections

Chance of Lake Mead Falling Below Critical Reservoir Elevations in any Month of the Calendar Year

	Run	2023[1]	2024	2025	2026	2027[2]
Lake Mead less than 1,020 feet	August 2022	47%	57%	57%	60%	57%
	January 2023	**17%**	**33%**	**40%**	**40%**	**50%**
	Difference	-30%	-24%	-17%	-20%	-7%
Lake Mead less than 1,000 feet	August 2022	0%	23%	20%	20%	17%
	January 2023	**N**	**13%**	**13%**	**13%**	**13%**
	Difference	0%	-10%	-7%	-7%	-4%
Lake Mead less than 950 feet (minimum power pool)	August 2022	0%	0%	0%	7%	3%
	January 2023	**0%**	**0%**	**0%**	**0%**	**0%**
	Difference	0%	0%	0%	-7%	-3%
Lake Mead less than 900 feet (dead pool = 895 feet)	August 2022	0%	0%	0%	0%	0%
	January 2023	**0%**	**0%**	**0%**	**0%**	**0%**
	Difference	0%	0%	0%	0%	0%

All results are computed based on projected physical elevations for Lake Mead.

[1] There is a negligible chance that Lake Mead will fall below 1,000 feet in 2023.

[2] For modeling purposes, simulated years beyond 2026 assume a continuation of the 2007 Interim Guidelines, the 2019 Colorado River Basin Drought Contingency Plans, and Minute 323, including the Binational Water Scarcity Contingency Plan. Except for certain provisions related to ICS recovery and Upper Basin demand management, operations under these agreements are in effect through 2026. Reclamation anticipates beginning a process in early 2023 to develop operations for post-2026, and the modeling assumptions described here are subject to change for the analysis to be used in that process.

Upper Basin – Lake Powell
Percent of Traces with Event or System Condition
Results from January 2023 CRMMS-ESP (values in percent)

Event or System Condition	2023	2024	2025	2026	2027[5]
Equalization Tier (Powell ≥ Equalization [EQ] Elevation)	**0**	**0**	**3**	**13**	**13**
Equalization – annual release > 8.23 maf	*0*	*0*	*3*	*13*	*13*
Equalization – annual release = 8.23 maf	*0*	*0*	*0*	*0*	*0*
Upper Elevation Balancing Tier (Powell < EQ Elevation and ≥ 3,575 ft)	**0**	**10**	**30**	**23**	**37**
Upper Elevation Balancing – annual release > 8.23 maf	*0*	*10*	*30*	*23*	*33*
Upper Elevation Balancing – annual release = 8.23 maf	*0*	*0*	*0*	*0*	*3*
Upper Elevation Balancing – annual release < 8.23 maf	*0*	*0*	*0*	*0*	*0*
Mid-Elevation Release Tier (Powell < 3,575 and ≥ 3,525 ft)	**0**	**53**	**47**	**43**	**33**
Mid-Elevation Release – annual release = 8.23 maf	*0*	*0*	*3*	*10*	*3*
Mid-Elevation Release – annual release = 7.48 maf	*0*	*53*	*43*	*33*	*30*
Lower Elevation Balancing Tier (Powell < 3,525 ft)	**100**	**37**	**20**	**20**	**17**
Lower Elevation Balancing – annual release > 8.23 maf	*20*	*20*	*7*	*7*	*7*
Lower Elevation Balancing – annual release < 8.23 maf	*80*	*17*	*13*	*13*	*10*

Notes:
[1] Modeled operations include the 2007 Interim Guidelines, Upper Basin Drought Response Operations, Lower Basin Drought Contingency Plan, Minute 323, including the Binational Water Scarcity Contingency Plan, 2022 Drought Response Operations Plan, and 2022 Glen Canyon Dam operational adjustment.
[2] The projected operating tiers are computed "as if" the 480 kaf reduced release from Glen Canyon Dam in water year 2022 was delivered to Lake Mead.
[3] When Lake Powell is operating in the Lower Elevation Balancing Tier in water year 2023 or 2024, balancing releases were limited (with a minimum of 7.0 maf) to protect Lake Powell from declining below 3,525 feet at the end of December 2023 or 2024.
[4] Reservoir conditions for 2023-2027 were simulated using the January 2023 CRMMS in ensemble mode using the CBRFC unregulated inflow forecast ensemble (CRMMS-ESP) dated January 5, 2023.
[5] For modeling purposes, simulated years beyond 2026 assume a continuation of the 2007 Interim Guidelines, the 2019 Colorado River Basin Drought Contingency Plans, and Minute 323, including the Binational Water Scarcity Contingency Plan. Except for certain provisions related to ICS recovery and Upper Basin demand management, operations under these agreements are in effect through 2026. Reclamation anticipates beginning a process in early 2023 to develop operations for post-2026, and the modeling assumptions described here are subject to change for the analysis to be used in that process.
[6] Percentages shown in this table may not be representative of the full range of future possibilities that could occur with different modeling assumptions.
[7] Percentages shown may not sum to 100% due to round to the nearest percent.

Lower Basin – Lake Mead
Percent of Traces with Event or System Condition
Results from January 2023 CRMMS-ESP (values in percent)

Event or System Condition	2023	2024	2025	2026	2027[5]
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**	**7**	**7**	**7**	**13**
Recovery of DCP ICS / Mexico's Water Savings (Mead >/≥ 1,110 ft)	0	0	0	0	3
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,090 and > 1,075 ft)	0	7	7	3	0
Shortage Condition – any amount (Mead ≤ 1,075 ft)	**100**	**93**	**93**	**93**	**87**
Shortage / Reduction – 1st level (Mead ≤ 1,075 and ≥ 1,050)	*0*	*17*	*20*	*20*	*20*
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,075 and > 1,050 ft)	0	17	20	20	20
Shortage / Reduction – 2nd level (Mead < 1,050 and ≥ 1,025)	*100*	*77*	*53*	*40*	*40*
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,050 and > 1,045 ft)	100	17	7	13	3
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,045 and > 1,040 ft)	0	10	7	10	3
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,040 and > 1,035 ft)	0	23	23	7	17
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,035 and > 1,030 ft)	0	10	10	7	7
DCP Contribution / Mexico's Water Savings (Mead ≤ 1,030 and ≥/> 1,025 ft)	0	17	7	3	10
Shortage / Reduction – 3rd level (Mead < 1,025)	*0*	*0*	*20*	*33*	*27*
DCP Contribution / Mexico's Water Savings (Mead </≤ 1,025 ft)	0	0	20	33	27

Notes:
[1] Modeled operations include the 2007 Interim Guidelines, Upper Basin Drought Response Operations, Lower Basin Drought Contingency Plan, Minute 323, including the Binational Water Scarcity Contingency Plan, 2022 Drought Response Operations Plan, and 2022 Glen Canyon Dam operational adjustment.
[2] The projected operating tiers are computed "as if" the 480 kaf reduced release from Glen Canyon Dam in water year 2022 was delivered to Lake Mead.
[3] When Lake Powell is operating in the Lower Elevation Balancing Tier in water year 2023 or 2024, balancing releases were limited (with a minimum of 7.0 maf) to protect Lake Powell from declining below 3,525 feet at the end of December 2023 or 2024.
[4] Reservoir conditions for 2023-2027 were simulated using the January 2023 CRMMS in ensemble mode using the CBRFC unregulated inflow forecast ensemble (CRMMS-ESP) dated January 5, 2023.
[5] For modeling purposes, simulated years beyond 2026 assume a continuation of the 2007 Interim Guidelines, the 2019 Colorado River Basin Drought Contingency Plans, and Minute 323, including the Binational Water Scarcity Contingency Plan. Except for certain provisions related to ICS recovery and Upper Basin demand management, operations under these agreements are in effect through 2026. Reclamation anticipates beginning a process in early 2023 to develop operations for post-2026, and the modeling assumptions described here are subject to change for the analysis to be used in that process.
[6] Percentages shown in this table may not be representative of the full range of future possibilities that could occur with different modeling assumptions.
[7] Percentages shown may not sum to 100% due to round to the nearest percent.