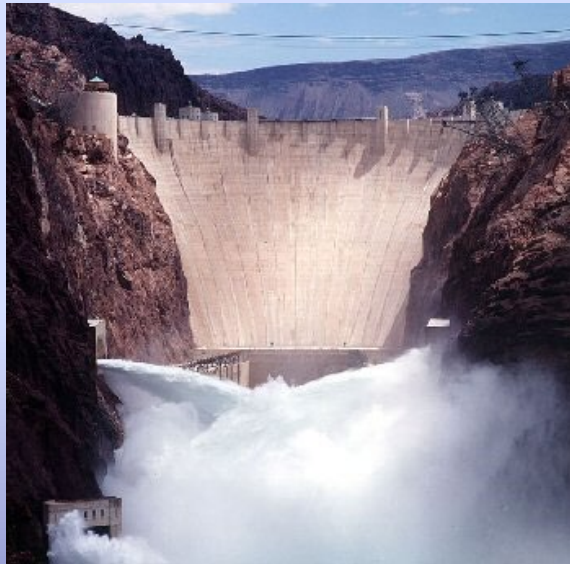


COLORADO RIVER BASIN UPDATE AND STATUS

Presented to

Arizona Water Banking Authority
March 11, 2020



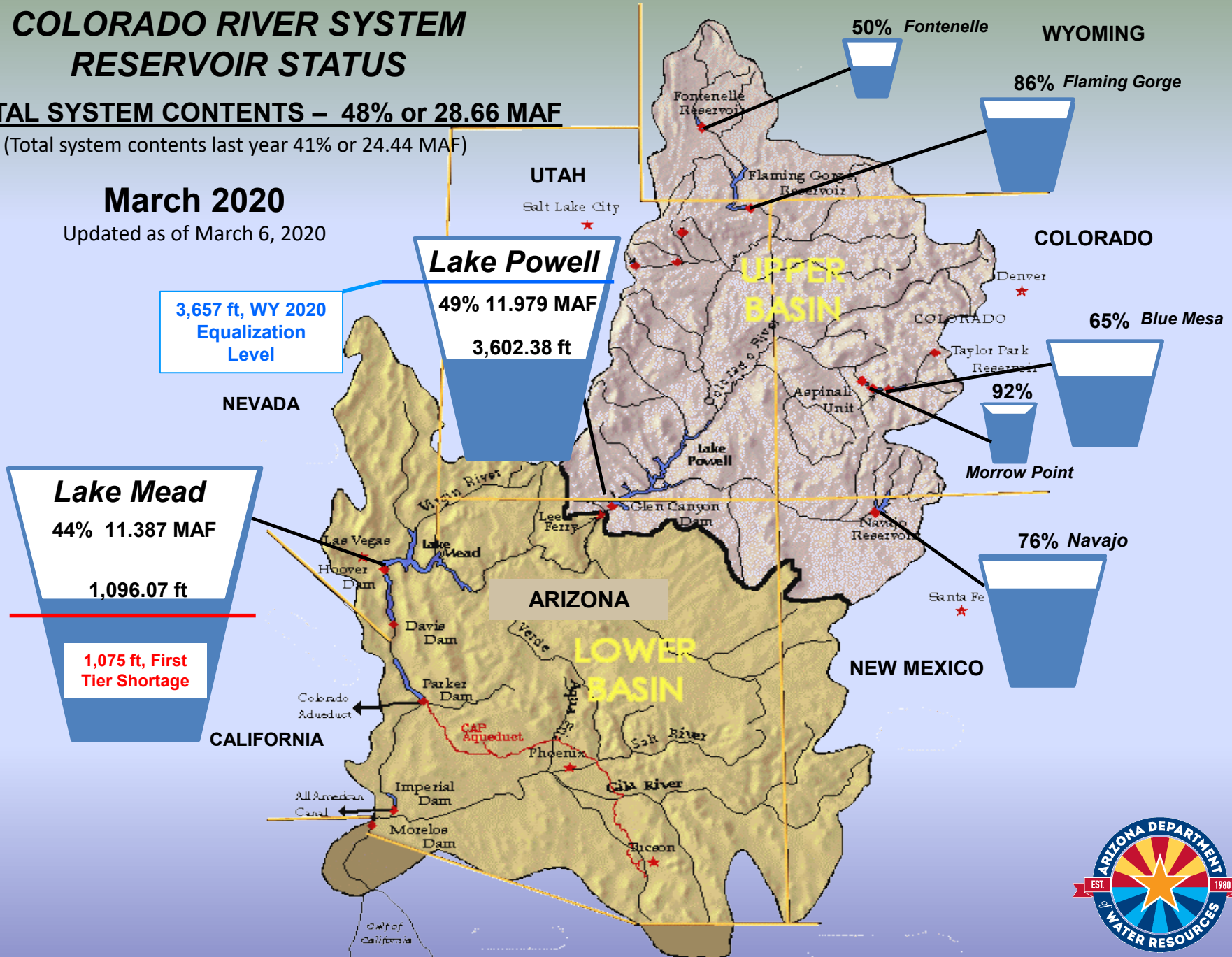
COLORADO RIVER SYSTEM RESERVOIR STATUS

TOTAL SYSTEM CONTENTS – 48% or 28.66 MAF

(Total system contents last year 41% or 24.44 MAF)

March 2020

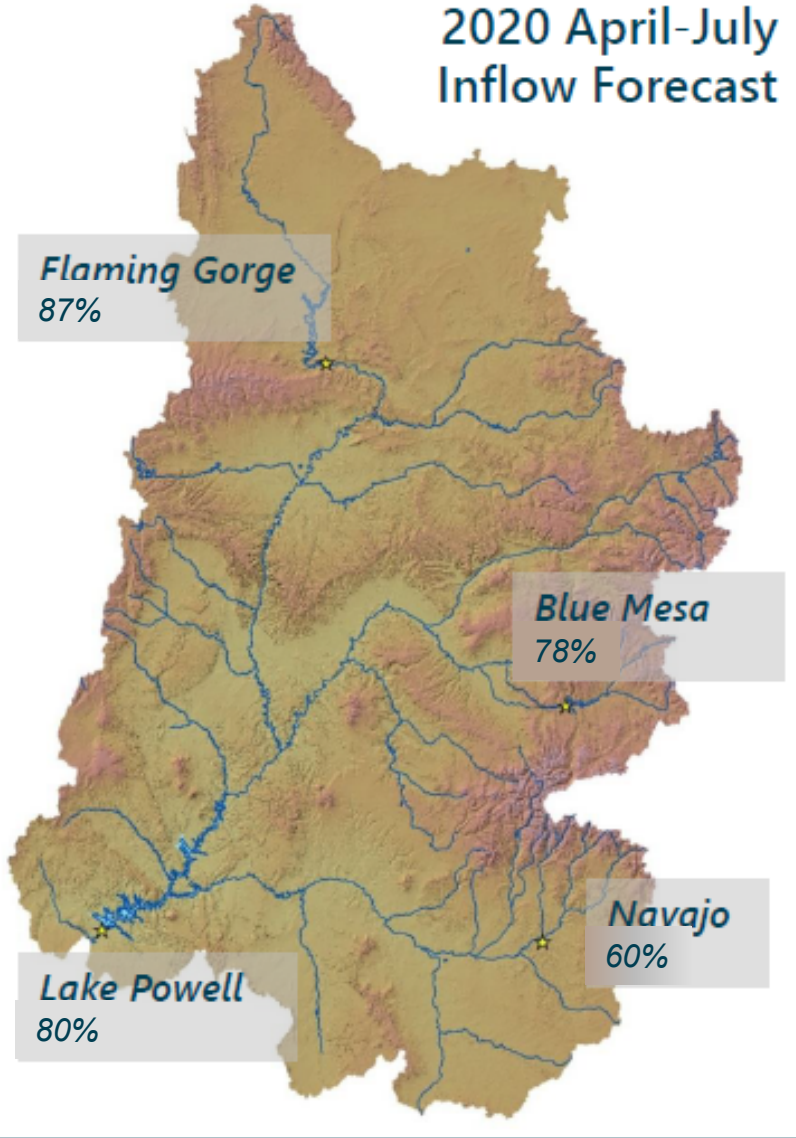
Updated as of March 6, 2020



CBRFC Unregulated Inflow Forecast

Dated March 2, 2020

2020 April-July
Inflow Forecast



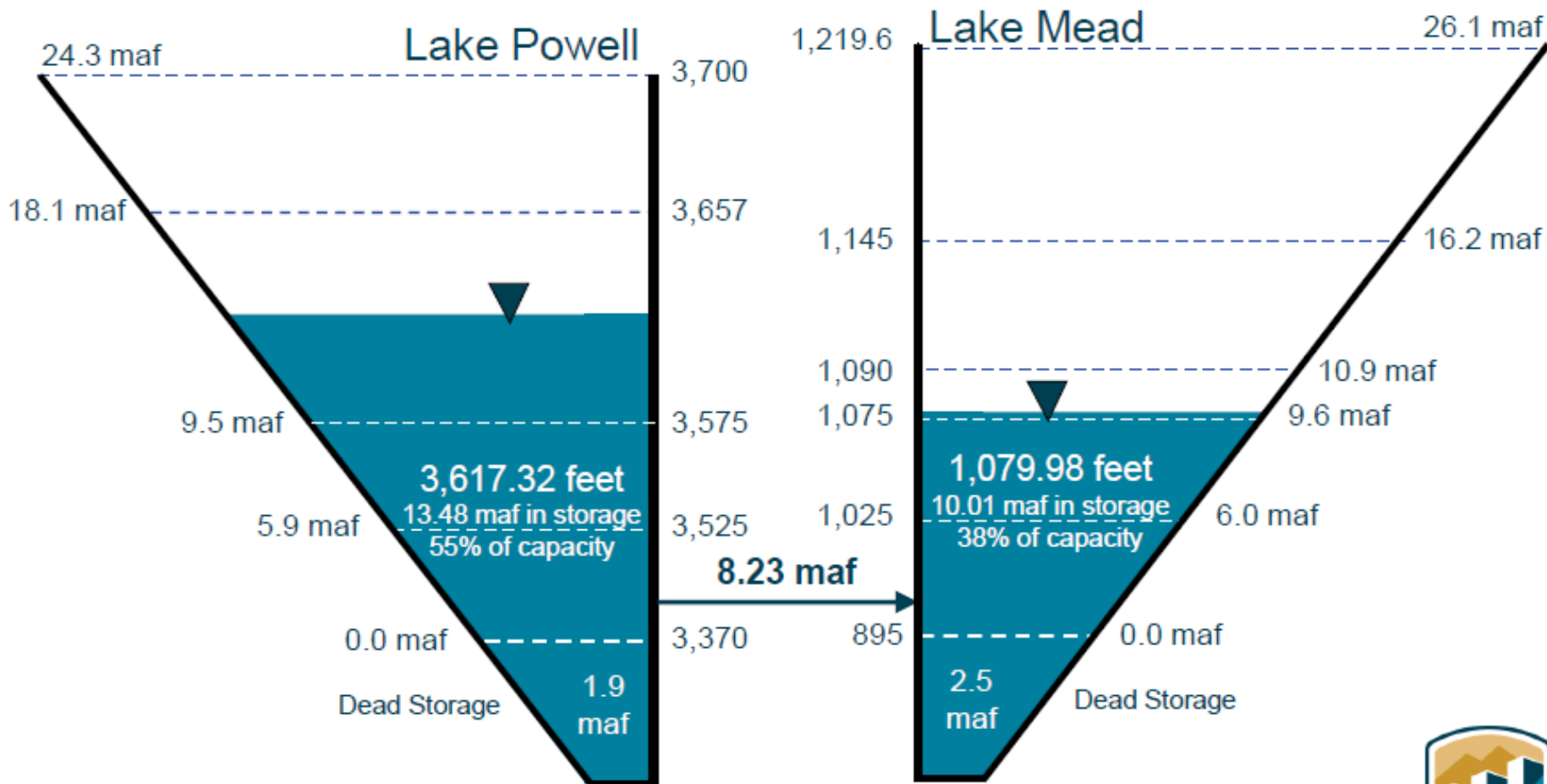
Powell Unregulated Inflow Forecast

Month/Period	Inflow (kaf)	Percent of Average
Jan 2020 <i>(Observed)</i>	277	77
Feb 2020 <i>(Observed)</i>	288	73
Mar 2020	440	66
Apr 2020	750	71
2020 Apr-Jul	5,700	80
WY 2020	8,564	79

End of Water Year 2020 Projections

February 2020 24-Month Study Most Probable Inflow Scenario¹

Projected Lake Powell Unregulated Inflow = 8.64 maf (80% of average)



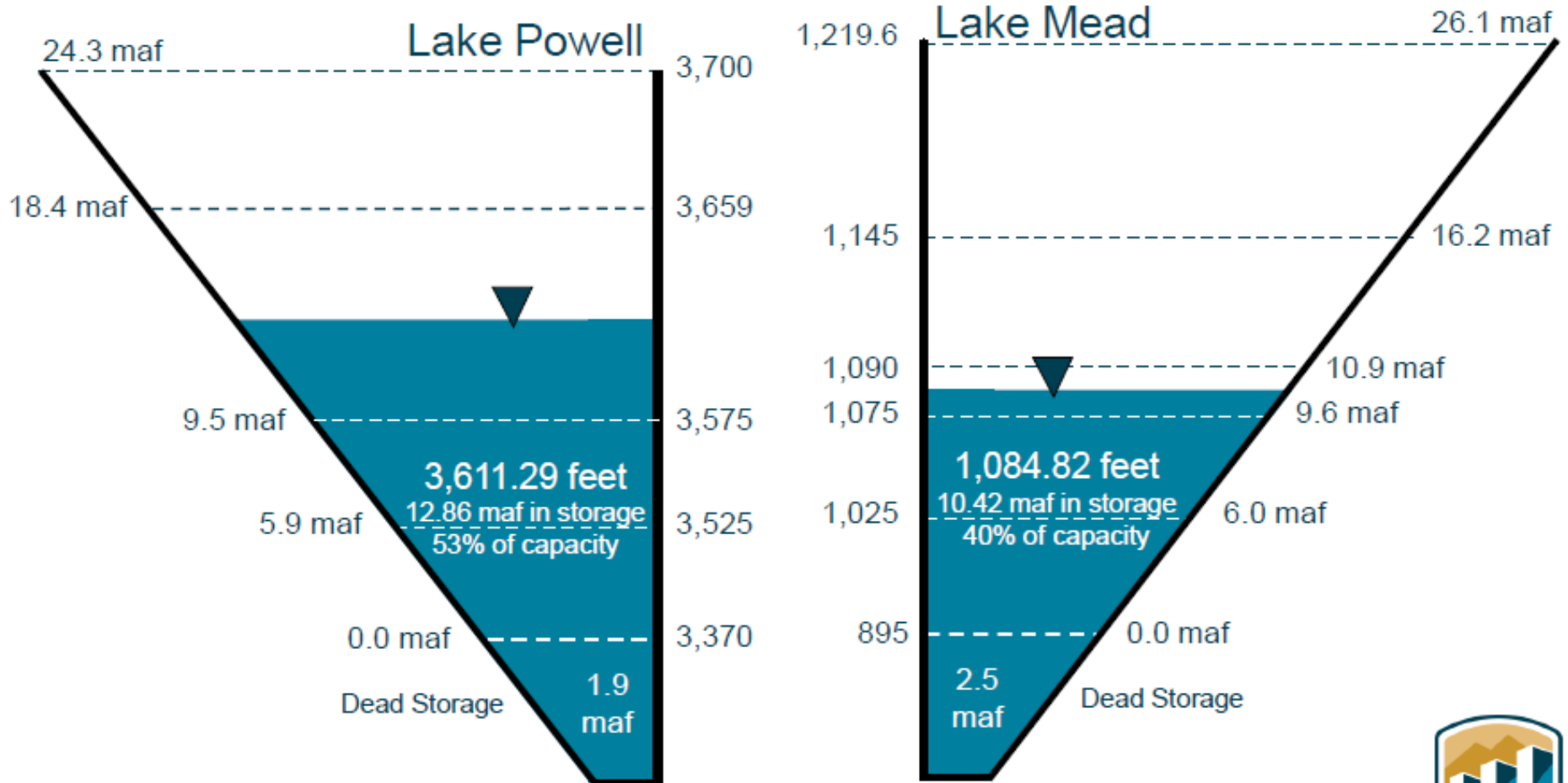
Not to Scale

¹WY 2020 unregulated inflow into Lake Powell is based on the CBRFC forecast dated 2/4/20.

End of Calendar Year 2020 Projections

February 2020 24-Month Study Most Probable Inflow Scenario¹

Based on a Lake Powell release of 8.23 maf in WY 2020 & 9.00 maf in WY 2021



Not to Scale

¹WY 2020 unregulated inflow into Lake Powell is based on the CBRFC forecast dated 2/4/20.

Lower Basin – Lake Mead

Percent of Traces with Event or System Condition

Results from February 2020 MTOM/CRSS (using the Full Hydrology)

(values in percent)

Event or System Condition	2020	2021	2022	2023	2024
Surplus Condition – any amount (Mead \geq 1,145 ft)	0	0	2	7	11
Surplus – Flood Control	0	0	<1	<1	2
Normal or ICS Surplus Condition (Mead < 1,145 and > 1,075 ft)	100	100	88	62	52
Recovery of DCP ICS / Mexico's Water Savings (Mead $>/\geq$ 1,110 ft)	0	3	7	17	22
DCP Contribution / Mexico's Water Savings (Mead \leq 1,090 and > 1,075 ft)	100	80	71	41	32
Shortage Condition – any amount (Mead \leq 1,075 ft)	0	N	11	31	37
<i>Shortage / Reduction – 1st level (Mead \leq 1,075 and \geq 1,050)</i>	0	0	11	29	27
DCP Contribution / Mexico's Water Savings (Mead \leq 1,075 and > 1,050 ft)	0	0	11	29	27
<i>Shortage / Reduction – 2nd level (Mead < 1,050 and \geq 1,025)</i>	0	0	0	2	9
DCP Contribution / Mexico's Water Savings (Mead \leq 1,050 and > 1,045 ft)	0	0	0	1	3
DCP Contribution / Mexico's Water Savings (Mead \leq 1,045 and > 1,040 ft)	0	0	0	<1	2
DCP Contribution / Mexico's Water Savings (Mead \leq 1,040 and > 1,035 ft)	0	0	0	<1	2
DCP Contribution / Mexico's Water Savings (Mead \leq 1,035 and > 1,030 ft)	0	0	0	0	1
DCP Contribution / Mexico's Water Savings (Mead \leq 1,030 and \geq 1,025 ft)	0	0	0	0	1
<i>Shortage / Reduction – 3rd level (Mead < 1,025)</i>	0	0	0	0	<1
DCP Contribution / Mexico's Water Savings (Mead $</\leq$ 1,025 ft)	0	0	0	0	<1

Notes:

¹ Modeled operations include the 2007 Interim Guidelines, Upper Basin Drought Response Operations, Lower Basin Drought Contingency Plan, and Minute 323, including the Binational Water Scarcity Contingency Plan.

² Reservoir initial conditions on December 31, 2020 were simulated using the February 2020 MTOM based on the CRRFC unregulated inflow forecast ensemble dated February 4, 2020.

³ Each of the 35 initial conditions from MTOM were coupled with 113 hydrologic inflow sequences from the Full Hydrology that resamples the observed natural flow record from 1906-2018 for a total of 3955 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.

⁶ The chance of a Lower Basin Shortage in 2021 is negligible.



Lower Basin – Lake Mead

Percent of Traces with Event or System Condition

Results from February 2020 MTOM/CRSS (using the **Stress Test Hydrology**)

(values in percent)

Event or System Condition	2020	2021	2022	2023	2024
Surplus Condition – any amount (Mead \geq 1,145 ft)	0	0	<1	<1	2
Surplus – Flood Control	0	0	0	0	0
Normal or ICS Surplus Condition (Mead < 1,145 and > 1,075 ft)	100	100	84	54	44
Recovery of DCP ICS / Mexico's Water Savings (Mead $>/\geq$ 1,110 ft)	0	3	3	6	9
DCP Contribution / Mexico's Water Savings (Mead \leq 1,090 and > 1,075 ft)	100	80	73	40	30
Shortage Condition – any amount (Mead \leq 1,075 ft)	0	0	15	45	54
<i>Shortage / Reduction – 1st level (Mead \leq 1,075 and \geq 1,050)</i>	0	0	15	41	32
DCP Contribution / Mexico's Water Savings (Mead \leq 1,075 and > 1,050 ft)	0	0	15	41	32
<i>Shortage / Reduction – 2nd level (Mead < 1,050 and \geq 1,025)</i>	0	0	0	4	22
DCP Contribution / Mexico's Water Savings (Mead \leq 1,050 and > 1,045 ft)	0	0	0	3	5
DCP Contribution / Mexico's Water Savings (Mead \leq 1,045 and > 1,040 ft)	0	0	0	<1	5
DCP Contribution / Mexico's Water Savings (Mead \leq 1,040 and > 1,035 ft)	0	0	0	<1	6
DCP Contribution / Mexico's Water Savings (Mead \leq 1,035 and > 1,030 ft)	0	0	0	0	3
DCP Contribution / Mexico's Water Savings (Mead \leq 1,030 and \geq 1,025 ft)	0	0	0	0	3
<i>Shortage / Reduction – 3rd level (Mead < 1,025)</i>	0	0	0	0	<1
DCP Contribution / Mexico's Water Savings (Mead $</\leq$ 1,025 ft)	0	0	0	0	<1

Notes:

¹ Modeled operations include the 2007 Interim Guidelines, Upper Basin Drought Response Operations, Lower Basin Drought Contingency Plan, and Minute 323, including the Binational Water Scarcity Contingency Plan.

² Reservoir initial conditions on December 31, 2020 were simulated using the February 2020 MTOM based on the CRRFC unregulated inflow forecast ensemble dated February 4, 2020.

³ Each of the 35 initial conditions from MTOM were coupled with 31 hydrologic inflow sequences from the Stress Test Hydrology that resamples the observed natural flow record from 1988-2018 for a total of 1,085 traces analyzed.

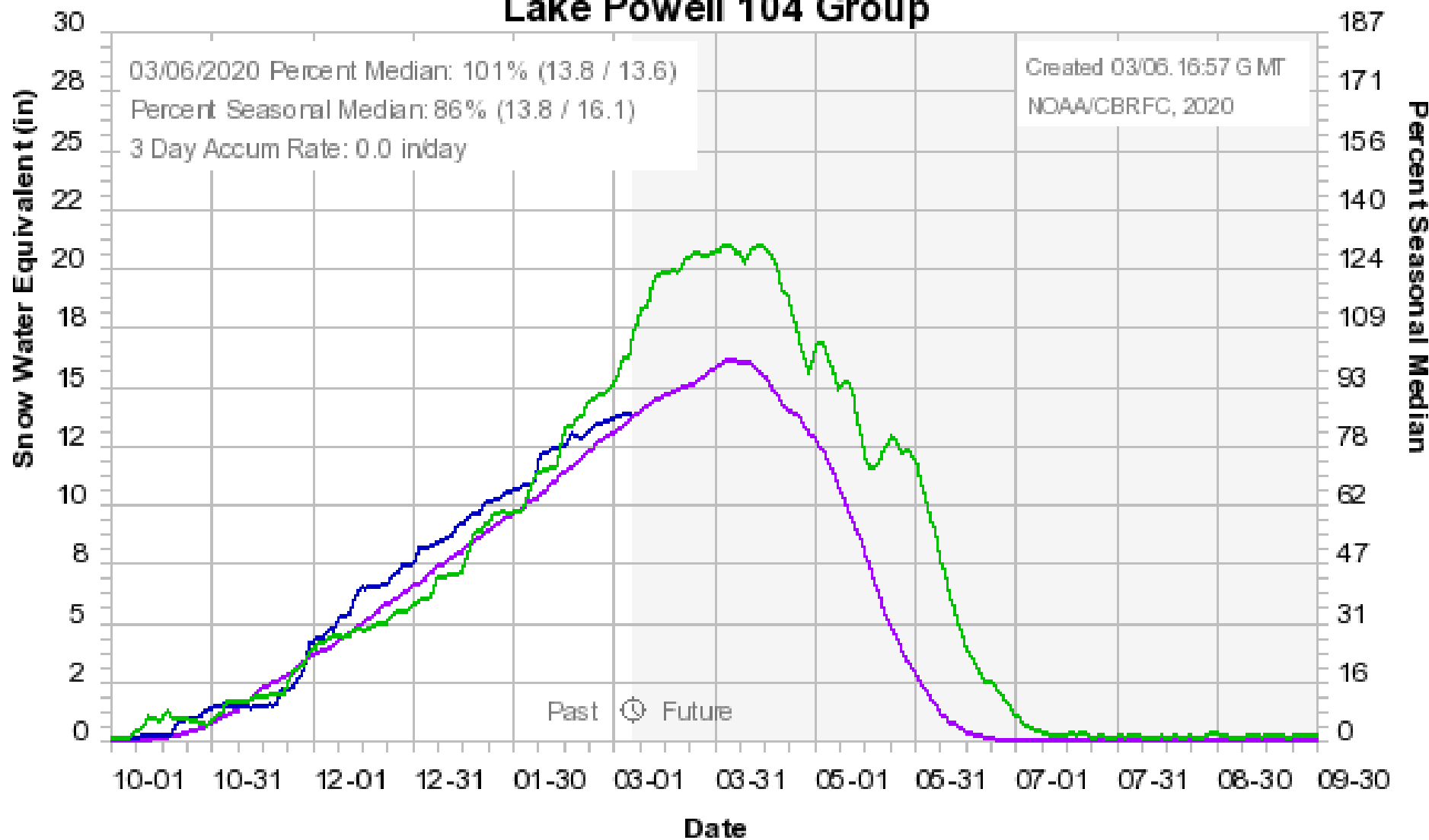
⁴ Percentages shown in this table may not be representative of the full range of future possibilities that could occur with different modeling assumptions.

⁵ Percentages shown may not sum to 100% due to rounding to the nearest percent.

⁶ The chance of a Lower Basin Shortage in 2021 is negligible.



Colorado Basin River Forecast Center Lake Powell 104 Group



Median 1981-2010 2020 2019