



— BUREAU OF —
RECLAMATION

CRFS 2021 Spring Meeting

LC Basin Region Operations Update

Boulder Canyon Operations Office

March 25, 2021

Overview

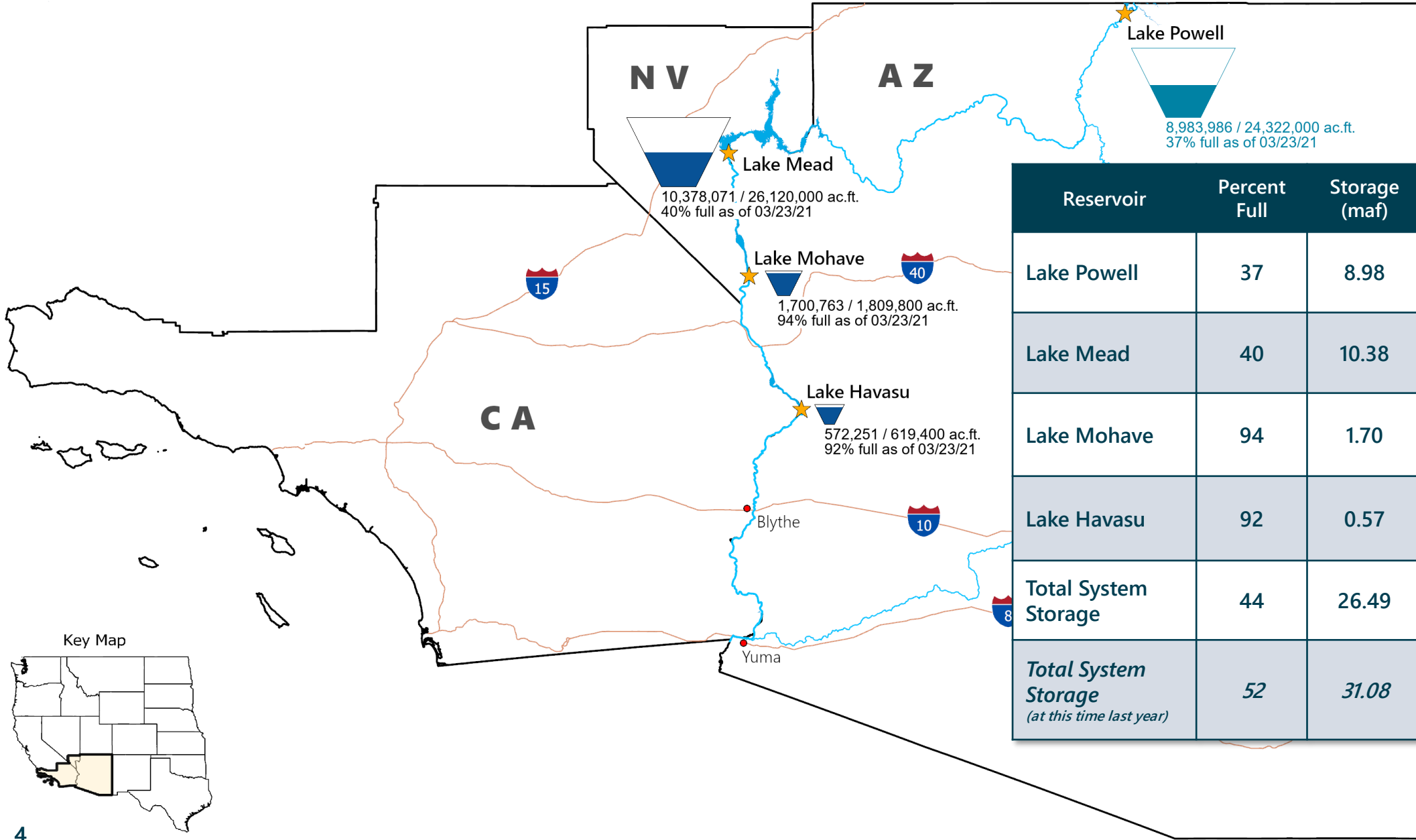
- **Current Conditions & 2021 Operations**
- **2022 Projected Operations**



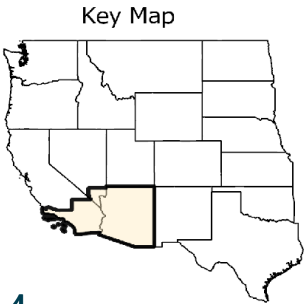
Lower Colorado River Basin Current Conditions



Lower Colorado Basin System Conditions (as of March 23, 2021)



| Reservoir | Percent Full | Storage (maf) | Elevation (feet) |
|--|--------------|---------------|------------------|
| Lake Powell | 37 | 8.98 | 3,568.47 |
| Lake Mead | 40 | 10.38 | 1,084.39 |
| Lake Mohave | 94 | 1.70 | 643.08 |
| Lake Havasu | 92 | 0.57 | 447.59 |
| Total System Storage | 44 | 26.49 | - |
| Total System Storage <i>(at this time last year)</i> | 52 | 31.08 | - |



Lower Basin Side Inflows – WY/CY 2021^{1,2}

Intervening Flow from Glen Canyon to Hoover Dam

| Month in WY/CY 2021 | | 5-Year Average Intervening Flow (kaf) | Observed Intervening Flow (kaf) | Observed Intervening Flow (% of Average) | Difference From 5-Year Average (kaf) |
|---------------------|----------------|---------------------------------------|---------------------------------|--|--------------------------------------|
| Observed | October 2020 | 58 | 35 | 60% | -23 |
| | November 2020 | 71 | 56 | 79% | -15 |
| | December 2020 | 67 | 59 | 88% | -8 |
| | January 2021 | 95 | 74 | 77% | -21 |
| | February 2021 | 97 | 56 | 58% | -41 |
| Projected | March 2021 | 111 | | | |
| | April 2021 | 81 | | | |
| | May 2021 | 50 | | | |
| | June 2021 | 29 | | | |
| | July 2021 | 64 | | | |
| | August 2021 | 81 | | | |
| | September 2021 | 71 | | | |
| | October 2021 | 58 | | | |
| | November 2021 | 71 | | | |
| | December 2021 | 67 | | | |
| | WY 2021 Totals | 876 | 767 | 88% | -109 |
| | CY 2021 Totals | 876 | 814 | 93% | -62 |

¹ Values were computed with the LC’s gain-loss model for the most recent 24-month study.

² Percents of average are based on the 5-year mean from 2016-2020.

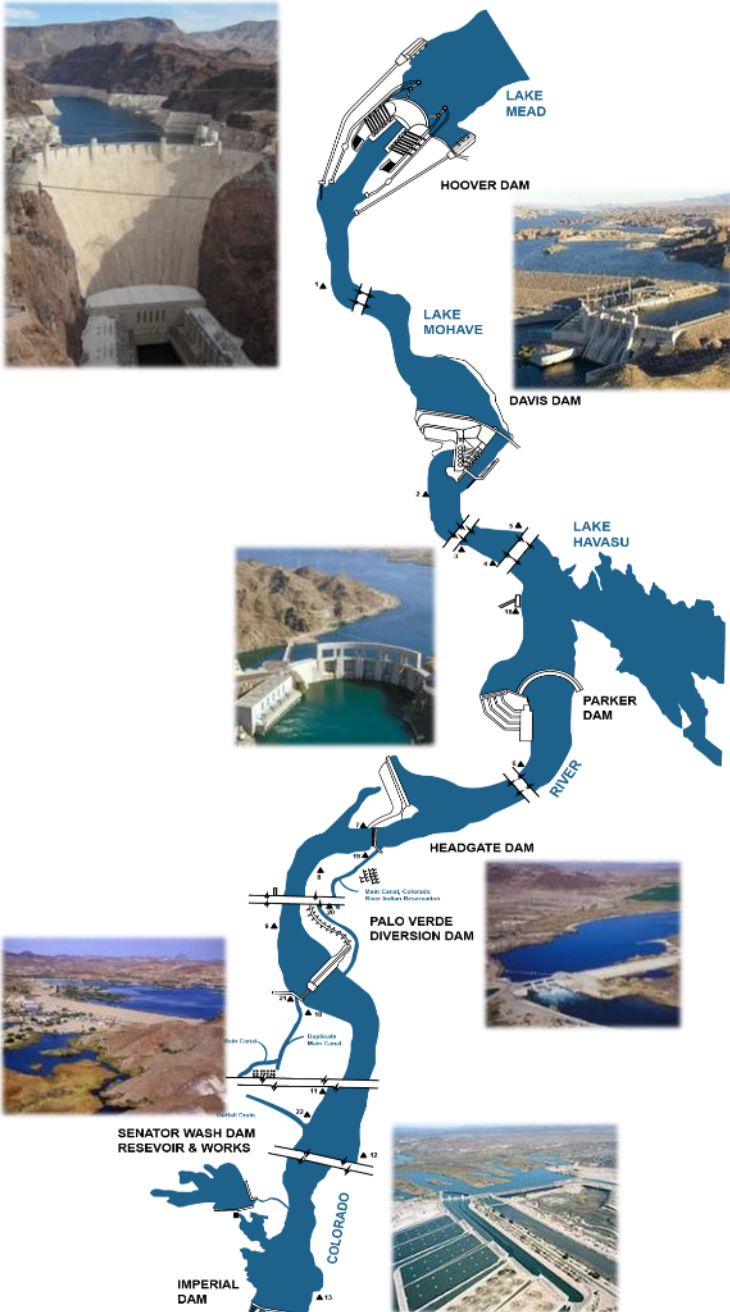


Lower Basin Side Inflow Comparison

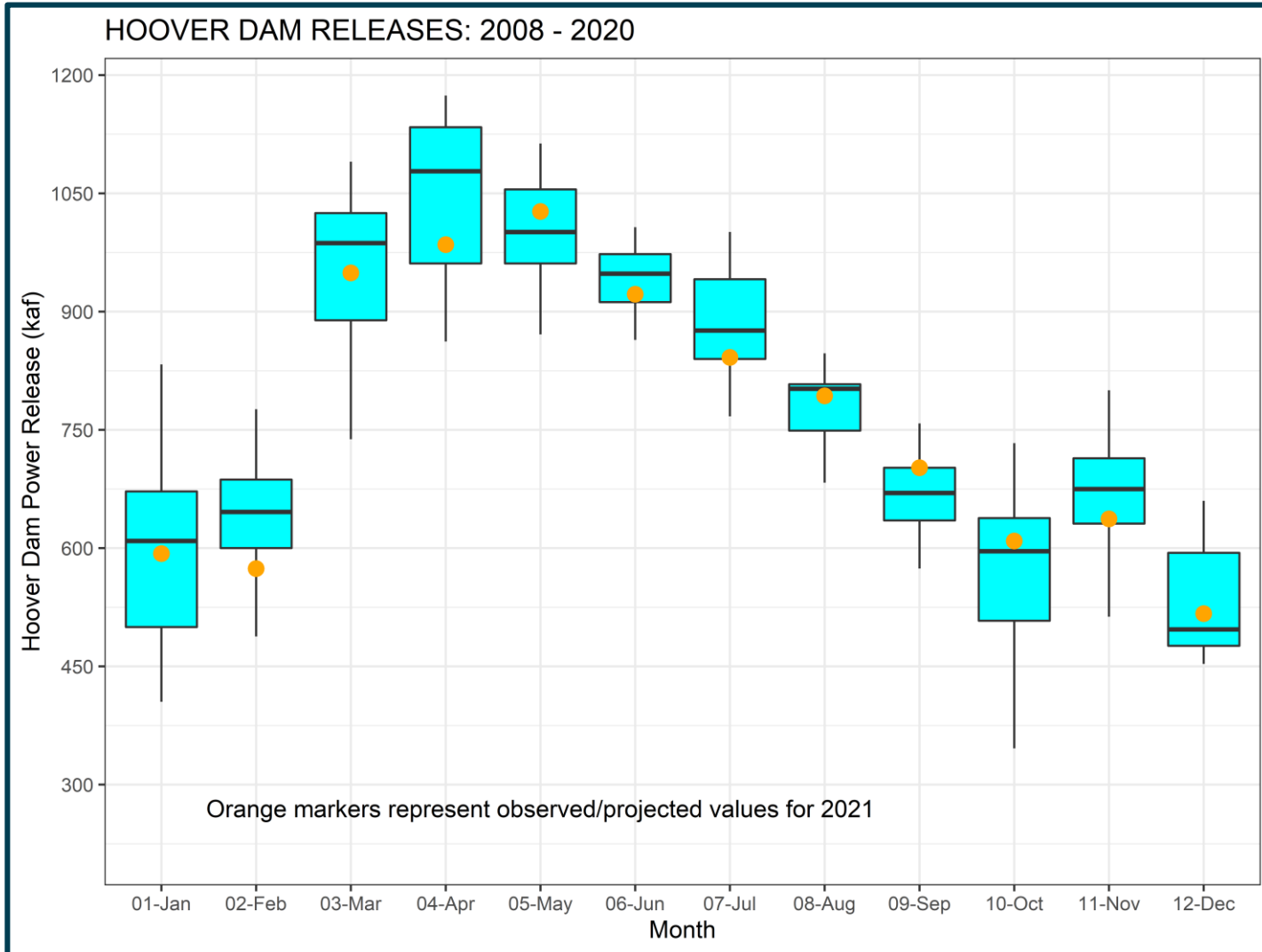
5-Year Average Comparison: 2015-2019 to 2016-2020

| Glen to Hoover Gains (kaf) | | | |
|----------------------------|------------|------------|------------|
| Month | 2015-2019 | 2016-2020 | Difference |
| Jan | 95 | 95 | 0 |
| Feb | 101 | 97 | -4 |
| Mar | 91 | 111 | 20 |
| Apr | 69 | 81 | 11 |
| May | 49 | 50 | 2 |
| Jun | 28 | 29 | 1 |
| Jul | 73 | 64 | -9 |
| Aug | 91 | 81 | -9 |
| Sep | 75 | 71 | -3 |
| Oct | 75 | 58 | -17 |
| Nov | 68 | 71 | 3 |
| Dec | 64 | 67 | 3 |
| Total | 878 | 876 | -2 |

| Hoover to NIB Gains (kaf) | | | |
|---------------------------|-------------|-------------|------------|
| Month | 2015-2019 | 2016-2020 | Difference |
| Jan | -9 | -11 | -2 |
| Feb | -28 | -30 | -2 |
| Mar | -56 | -42 | 14 |
| Apr | -44 | -38 | 6 |
| May | -16 | -28 | -11 |
| Jun | -54 | -60 | -6 |
| Jul | -26 | -31 | -5 |
| Aug | -23 | -31 | -8 |
| Sep | -16 | -19 | -3 |
| Oct | 2 | -2 | -4 |
| Nov | 8 | 3 | -5 |
| Dec | 34 | 29 | -5 |
| Total | -228 | -259 | -32 |



Lower Basin Region Dam Releases

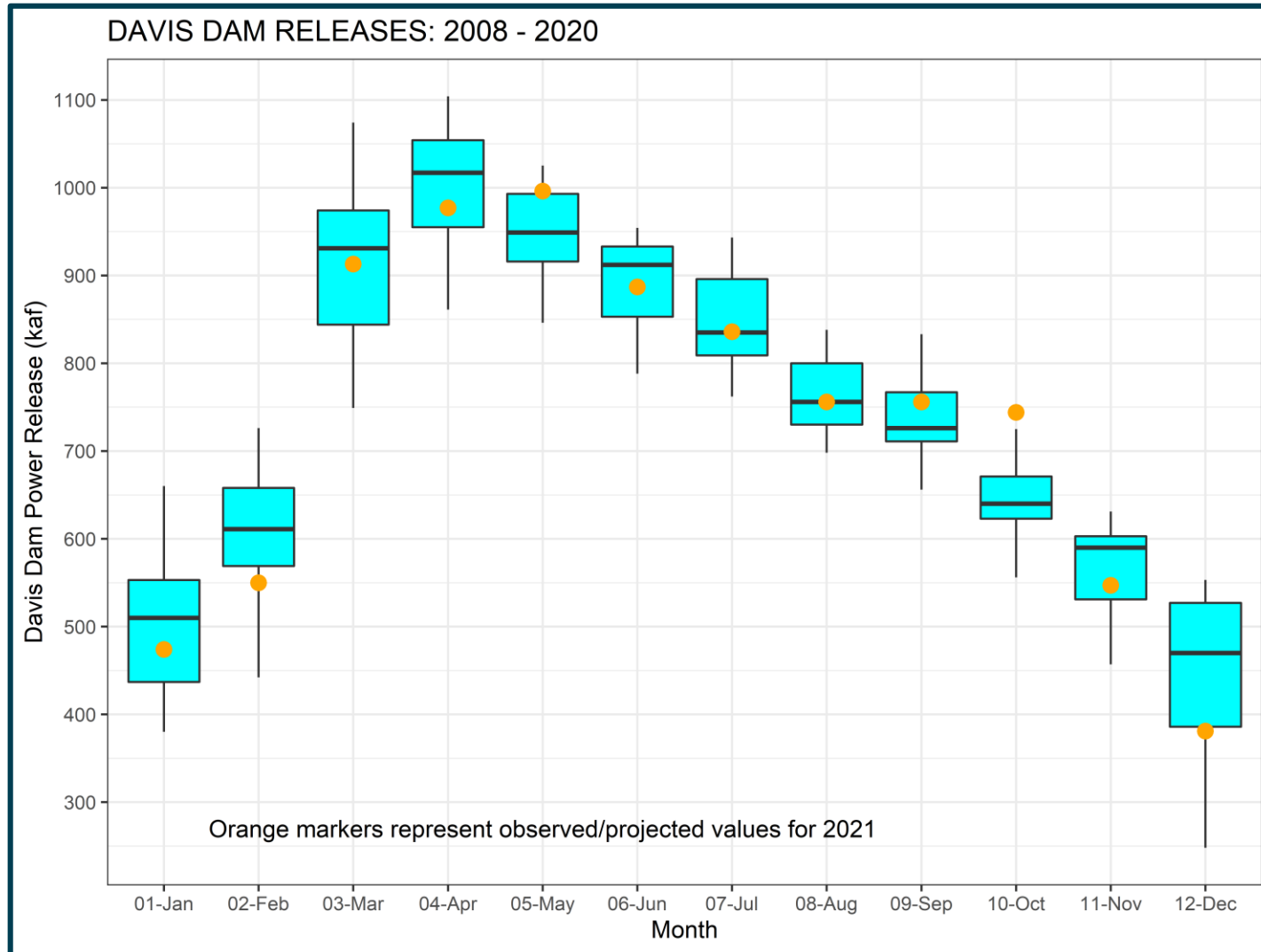


EXPLANATION

- Largest value within 1.5 times interquartile range above 75th percentile
 - 75th percentile
 - 50th percentile (median)
 - 25th percentile
 - Smallest value within 1.5 times interquartile range below 25th percentile
- Interquartile range
- **Outside value** Value is >1.5 times and <3 times the interquartile range beyond either end of the box



Lower Basin Region Dam Releases

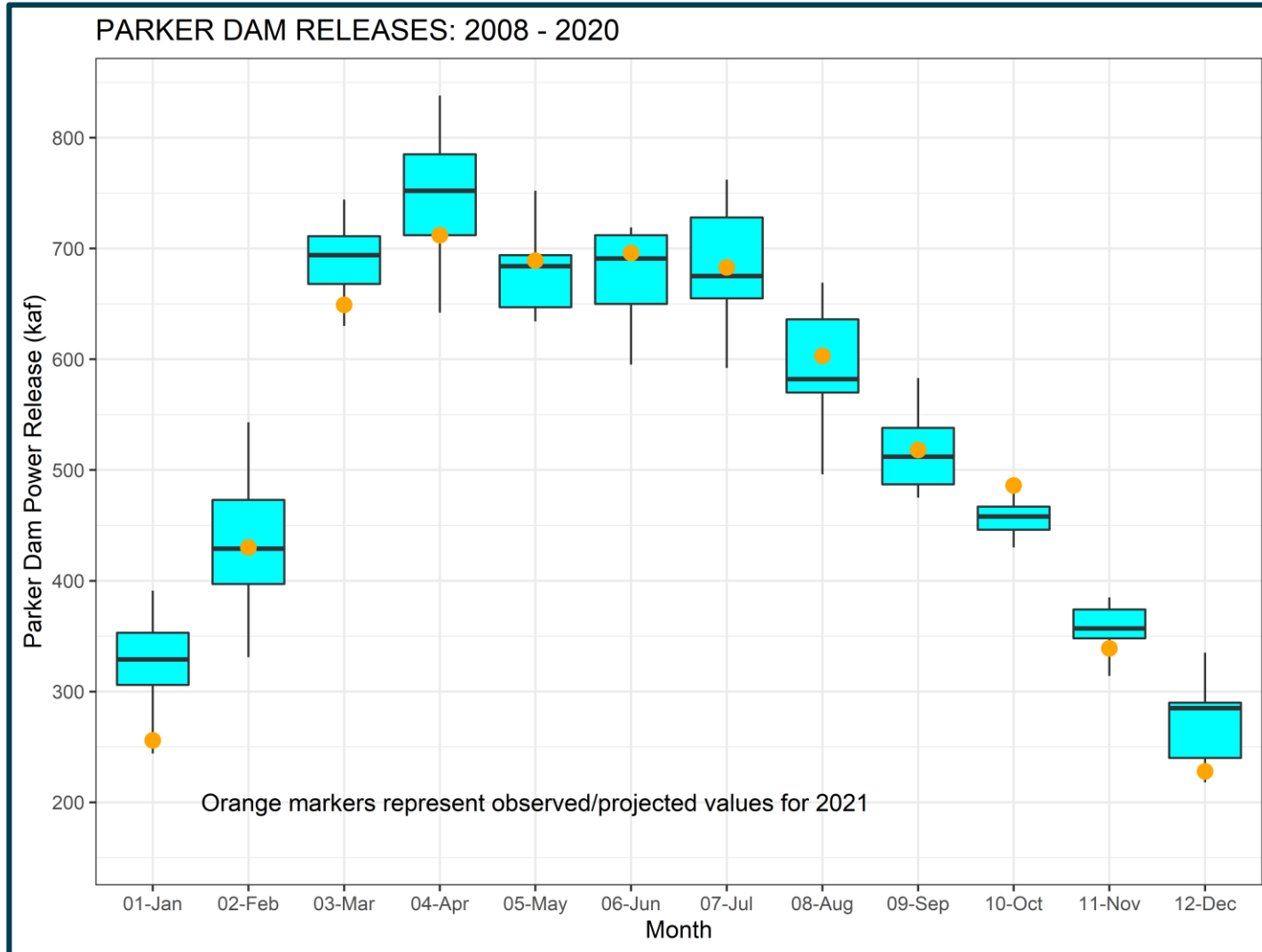


EXPLANATION

- Largest value within 1.5 times interquartile range above 75th percentile
- 75th percentile
- 50th percentile (median)
- 25th percentile
- Smallest value within 1.5 times interquartile range below 25th percentile
- **Outside value** Value is >1.5 times and <3 times the interquartile range beyond either end of the box



Lower Basin Region Dam Releases



EXPLANATION

- Largest value within 1.5 times interquartile range above 75th percentile
 - 75th percentile
 - 50th percentile (median)
 - 25th percentile
 - Smallest value within 1.5 times interquartile range below 25th percentile
- Interquartile range
- **Outside value** Value is >1.5 times and <3 times the interquartile range beyond either end of the box

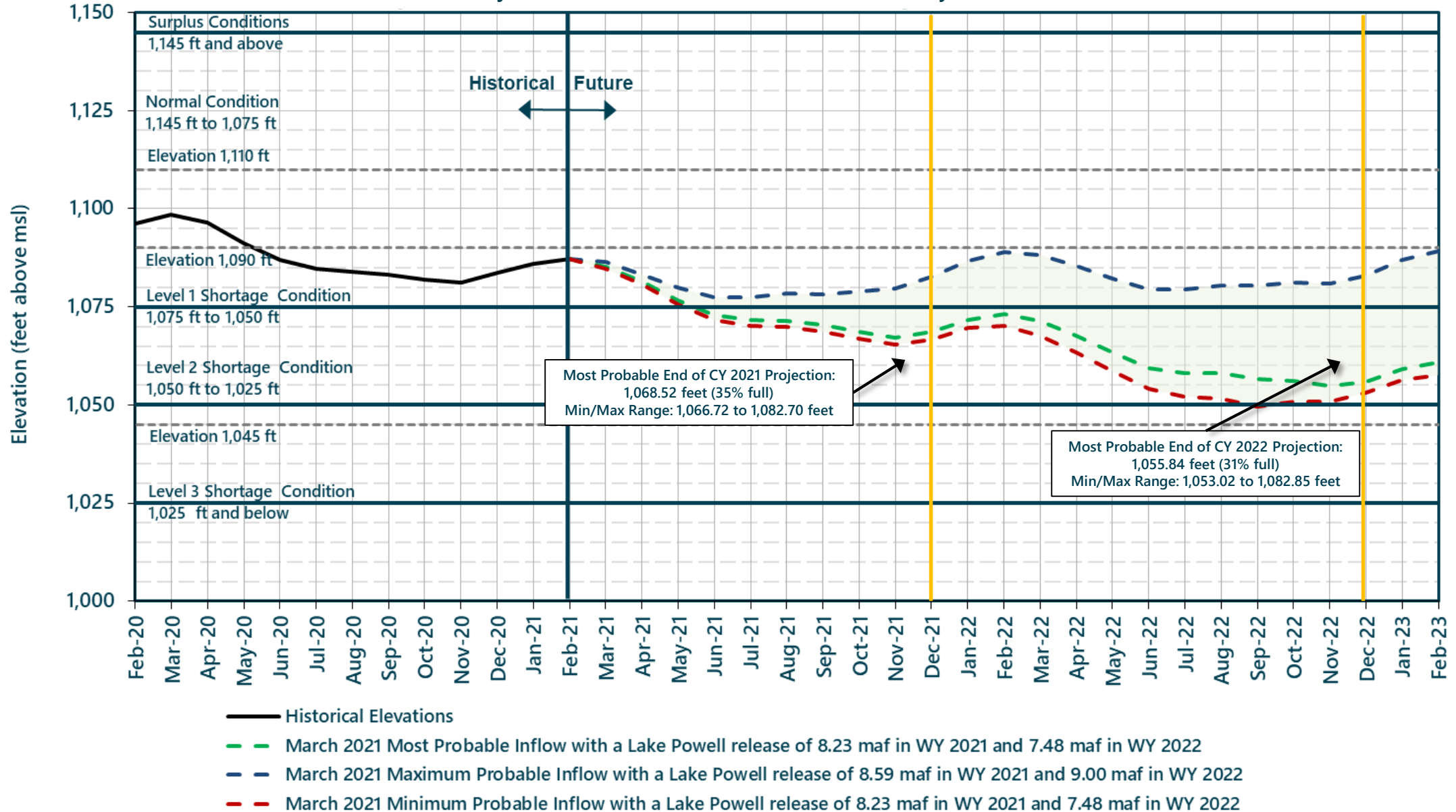


Lower Colorado River Basin Operations Update



Lake Mead End of Month Elevations

Projections from the March 2021 24-Month Study Inflow Scenarios



Projected Lake Mead Operational Tiers

Based on 24-Month Study Inflow Scenarios

| Inflow Scenario | CY 2021 Operating Condition | CY 2022 Jan 1, 2022 Projections |
|----------------------|--|--|
| Mar Probable Maximum | Normal - ICS Surplus Condition ¹ + Water Savings Contributions ² | Normal - ICS Surplus Condition + Water Savings Contributions ² Elevation 1,082.70 ft |
| Mar Most Probable | | Tier 1 Shortage Condition + Water Savings Contributions ² Elevation 1,068.52 ft |
| Mar Probable Minimum | | Tier 1 Shortage Condition + Water Savings Contributions ² Elevation 1,066.72 ft |

¹The 2021 operating tier was determined with the August 2020 Most Probable 24-Month Study and is documented in the 2021 AOP.

²Water savings contributions consistent with the 2019 Colorado River Drought Contingency Plans and Section IV of IBWC Minute No. 323.



**2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan &
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 Contributions | | | Binational Water Scarcity Contingency Plan Savings | Combined Volumes by Country <i>US: (2007 Interim Guidelines Shortages + DCP Contributions) Mexico: (Minute 323 Delivery Reductions + Binational Water Scarcity Contingency Plan Savings)</i> | | | | | 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 - 1050 | 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 |

The US will work to create or conserve 100,000 af or more of Colorado River system water on an annual basis to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs. All actions taken by the United States shall be subject to applicable federal law, including availability of appropriations.



Lower Colorado River Operations

For further information: <https://www.usbr.gov/lc/riverops.html>

Email: bcoowaterops@usbr.gov



— BUREAU OF —
RECLAMATION