Overview of the Colorado River Basin

- Operation is governed by the “Law of the River”
- 16.5 million acre-feet of water use allocated annually
- 60 million acre-feet of storage capacity
- 4,200 Megawatts of installed hydropower capacity
- 70% of all use is for agriculture
- 40% the water is exported outside of the Basin
- Aside from the pulse flow event, the river hasn’t made it to the delta in decades
### Lower Colorado Basin System Conditions (as of May 23, 2021)

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Percent Full</th>
<th>Storage (maf)</th>
<th>Elevation (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Powell</td>
<td>34</td>
<td>8.32</td>
<td>3,559.95</td>
</tr>
<tr>
<td>Lake Mead</td>
<td>37</td>
<td>9.62</td>
<td>1,075.28</td>
</tr>
<tr>
<td>Lake Mohave</td>
<td>91</td>
<td>1.65</td>
<td>641.38</td>
</tr>
<tr>
<td>Lake Havasu</td>
<td>96</td>
<td>0.60</td>
<td>448.91</td>
</tr>
<tr>
<td><strong>Total System Storage</strong></td>
<td>42</td>
<td><strong>25.06</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Total System Storage (at this time last year)</strong></td>
<td>52</td>
<td><strong>30.91</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

- Lake Powell: 9,623,730 / 26,120,000 ac.ft. 37% full as of 05/23/21
- Lake Mead: 1,654,633 / 1,809,800 ac.ft. 91% full as of 05/23/21
- Lake Mohave: 597,596 / 619,400 ac.ft. 96% full as of 05/23/21
- Lake Havasu: 

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**Key Map**

- NV: Nevada
- AZ: Arizona
- CA: California
- Lower Colorado Basin System
- Lake Powell
- Lake Mead
- Lake Mohave
- Lake Havasu
- Blythe
- Yuma
Colorado River Drought

- Driest 22-year period (2000–2021) on record
- Driest decade on record (2012-2021)
- Only five years of above-average inflow in the last 22 years
- Lake Powell’s elevation has declined by about 140 feet since 2000
- Lake Mead’s elevation has declined by about 130 feet since 2000
State of the System (Water Years 1999-2021)\textsuperscript{1,2}

Unregulated Inflow into Lake Powell
Powell-Mead Storage and Percent Capacity

\begin{itemize}
  \item \textbf{Volume in MAF}
    \begin{itemize}
      \item 1999: 118\% \\
      \item 2000: 64\% \\
      \item 2001: 65\% \\
      \item 2002: 24\% \\
      \item 2003: 55\% \\
      \item 2004: 54\% \\
      \item 2005: 46\% \\
      \item 2006: 80\% \\
      \item 2007: 81\% \\
      \item 2008: 110\% \\
      \item 2009: 81\% \\
      \item 2010: 112\% \\
      \item 2011: 94\% \\
      \item 2012: 78\% \\
      \item 2013: 45\% \\
      \item 2014: 47\% \\
      \item 2015: 95\% \\
      \item 2016: 89\% \\
      \item 2017: 110\% \\
      \item 2018: 43\% \\
      \item 2019: 120\% \\
      \item 2020: 54\% \\
      \item 2021: 32\%
    \end{itemize}

\end{itemize}

\textbf{End of Water Year}
Powell and Mead Percent Capacity

\begin{itemize}
  \item Powell and Mead Storage (MAF)
    \begin{itemize}
      \item 1999: 95\% \\
      \item 2000: 86\% \\
      \item 2001: 78\% \\
      \item 2002: 63\% \\
      \item 2003: 55\% \\
      \item 2004: 54\% \\
      \item 2005: 51\% \\
      \item 2006: 53\% \\
      \item 2007: 53\% \\
      \item 2008: 51\% \\
      \item 2009: 61\% \\
      \item 2010: 54\% \\
      \item 2011: 46\% \\
      \item 2012: 47\% \\
      \item 2013: 44\% \\
      \item 2014: 44\% \\
      \item 2015: 45\% \\
      \item 2016: 49\% \\
      \item 2017: 41\% \\
      \item 2018: 47\% \\
      \item 2019: 43\% \\
      \item 2020: 32\% \\
      \item 2021: 32\%
    \end{itemize}

\end{itemize}

\textbf{Unregulated Inflow into Powell (MAF)}

\textsuperscript{1} Values for Water Year 2021 are projected. Unregulated inflow is based on the latest CBRFC forecast dated May 17, 2021. Storage and percent capacity are based on the May 2021 24 Month Study.

\textsuperscript{2} Percentages on the light blue line represent percent of average unregulated inflow into Lake Powell for a given water year. The percent of average is based on the period of record from 1961-2010.
Lake Powell Water Year Unregulated Inflow
Forecast as of May 17, 2021

Comparison with History

Water Year 2021 Forecast
Max Min Prob: 2.73 maf (25%)
May Most Prob: 3.48 maf (32%)
May Max Prob: 5.25 maf (49%)

Unregulated Inflow Volume (maf)

Water Year Inflow
Average Water Year Inflow: 1981-2010 (10.83 maf)
End of Calendar Year 2021 Projections
May 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

\(^1\) WY 2021 unregulated inflow into Lake Powell is based on the CBRFC forecast dated 5/4/21.
# 2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan, and Binational Water Scarcity Contingency Plan

## Total Volumes (kaf)

<table>
<thead>
<tr>
<th>Lake Mead Elevation (feet msl)</th>
<th>2007 Interim Guidelines Shortages</th>
<th>Minute 323 Delivery Reductions</th>
<th>Total Combined Reductions</th>
<th>DCP Water Savings Contributions</th>
<th>Binational Water Scarcity Contingency Plan Savings</th>
<th>Combined Volumes by Country</th>
<th>Total Combined Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AZ NV Mexico</td>
<td>AZ NV CA Mexico</td>
<td>AZ Total NV CA Total Lower Basin States Total Mexico Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,090 - 1,075</td>
<td>0 0 0</td>
<td>192 8 0</td>
<td>192 8 0</td>
<td>200 41</td>
<td></td>
<td>241</td>
<td></td>
</tr>
<tr>
<td>1,075 - 1,050</td>
<td>320 13 50</td>
<td>383</td>
<td>192 8 0</td>
<td>30 512</td>
<td>21 0</td>
<td>533 80</td>
<td>613</td>
</tr>
<tr>
<td>1,050 - 1,045</td>
<td>400 17 70</td>
<td>487</td>
<td>192 8 0</td>
<td>34 592</td>
<td>25 0</td>
<td>617 104</td>
<td>721</td>
</tr>
<tr>
<td>1,045 - 1,040</td>
<td>400 17 70</td>
<td>487</td>
<td>240 10 200</td>
<td>76 640</td>
<td>27 200</td>
<td>867 146</td>
<td>1,013</td>
</tr>
<tr>
<td>1,040 - 1,035</td>
<td>400 17 70</td>
<td>487</td>
<td>240 10 250</td>
<td>84 640</td>
<td>27 250</td>
<td>917 154</td>
<td>1,071</td>
</tr>
<tr>
<td>1,035 - 1,030</td>
<td>400 17 70</td>
<td>487</td>
<td>240 10 300</td>
<td>92 640</td>
<td>27 300</td>
<td>967 162</td>
<td>1,129</td>
</tr>
<tr>
<td>1,030 - 1,025</td>
<td>400 17 70</td>
<td>487</td>
<td>240 10 350</td>
<td>101 640</td>
<td>27 350</td>
<td>1,017 171</td>
<td>1,188</td>
</tr>
<tr>
<td>&lt;1,025</td>
<td>480 20 125</td>
<td>625</td>
<td>240 10 350</td>
<td>150 720</td>
<td>30 350</td>
<td>1,100 275</td>
<td>1,375</td>
</tr>
</tbody>
</table>

The Secretary of the Interior will take affirmative actions to implement programs designed to create or conserve 100,000 acre-ft per annum or more of Colorado River System water to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the lower basin. All actions taken by the United States shall be subject to applicable law, including availability of appropriations.
Summary of 5-Year Projections: April 2021

Official projections now contain two sets of results with differing assumptions regarding future hydrology. These two sets are produced using the “Full” hydrology and “Stress Test” hydrology.

- **Full hydrology** resembles the long-term record (i.e. the last century), including the period of extended high precipitation during the early 1900s, with a mean flow of 14.8 maf/year at Lees Ferry.
- **Stress Test hydrology** resembles last ~30 years, approximately when Basin-wide temperatures started consistently being above the long-term average temperature, with a mean flow of 13.3 maf/year at Lees Ferry. It is 10% drier on average than the long-term record.

The future hydrology is uncertain and future reservoir conditions are highly sensitive to assumptions regarding future hydrology.

### Key Results

<table>
<thead>
<tr>
<th>Event or System Condition</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lake Powell</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid-Elevation Release Tier (Powell &lt; 3,575 and ≥ 3,525 ft)</td>
<td>0%</td>
<td>91%</td>
<td>51%</td>
<td>31%</td>
<td>23%</td>
<td>0%</td>
<td>91%</td>
<td>65%</td>
<td>45%</td>
<td>35%</td>
</tr>
<tr>
<td>Below Minimum Power Pool (Powell &lt; 3,490 ft)</td>
<td>0%</td>
<td>0%</td>
<td>1%</td>
<td>4%</td>
<td>6%</td>
<td>0%</td>
<td>0%</td>
<td>&lt;1%</td>
<td>9%</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Lake Mead</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shortage Condition – any amount (Mead ≤ 1,075 ft)</td>
<td>0%</td>
<td>97%</td>
<td>94%</td>
<td>82%</td>
<td>77%</td>
<td>0%</td>
<td>97%</td>
<td>92%</td>
<td>91%</td>
<td>94%</td>
</tr>
<tr>
<td>Shortage / Reduction – 3rd level (Mead &lt; 1,025 ft)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>1%</td>
<td>11%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>&lt;1%</td>
<td>25%</td>
</tr>
</tbody>
</table>