Governor’s Drought Interagency Coordinating Committee

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Arizona Department Of Water Resources

November 10, 2015
Unregulated Inflow into Lake Powell
Powell-Mead Storage and Percent Capacity

End of Water Year

Volume in MAF

Percent Capacity

Powell and Mead Storage (MAF) Unregulated Inflow into Powell (MAF) Powell and Mead Percent Capacity

1 Percentages at the top of the light blue bars 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 1981-2010.

Source: United States Bureau of Reclamation
Lake Powell Unregulated Inflow
April through July (Final)
Comparison With History

April Through July Observed
6.714 MAF (94%)

Historic Average (1981-2010): 7.16 MAF
Average for 2000 to 2015: 5.54 MAF

Data Source: United States Bureau of Reclamation and Colorado Basin River Forecast Center
### Lake Powell and Lake Mead Operational Table

**Operational Tiers for Water/Calendar Year 2016**

Determined from Reclamation’s *August 2015 24-Month Study*

<table>
<thead>
<tr>
<th><strong>Lake Powell</strong></th>
<th><strong>Lake Mead</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elevation</strong></td>
<td><strong>Operation According to the Interim Guidelines</strong></td>
</tr>
<tr>
<td>(feet)</td>
<td></td>
</tr>
<tr>
<td>3,700</td>
<td>Equalization Tier&lt;br&gt;Equalize, avoid spills or release 8.23 maf</td>
</tr>
<tr>
<td>3,636 - 3,686 (2008-2026)</td>
<td>Upper Elevation Balancing Tier&lt;br&gt;Release 8.23 maf; if Lake Mead &lt; 1,075 feet, balance contents with</td>
</tr>
<tr>
<td><strong>3,602.46 ft</strong></td>
<td></td>
</tr>
<tr>
<td>Jan 1, 2016 projection</td>
<td>a min/max release of 7.0 and 9.0 maf</td>
</tr>
<tr>
<td>3,575</td>
<td>Mid-Elevation Release Tier&lt;br&gt;Release 7.48 maf; if Lake Mead &lt; 1,025 feet, release 8.23 maf</td>
</tr>
<tr>
<td>3,525</td>
<td>Lower Elevation Balancing Tier&lt;br&gt;Balance contents with a min/max release of 7.0 and 9.5 maf</td>
</tr>
<tr>
<td>3,490</td>
<td></td>
</tr>
<tr>
<td>3,370</td>
<td></td>
</tr>
</tbody>
</table>

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**Diagram not to scale**

1. Acronym for million acre-feet
2. This elevation is shown as approximate as it is determined each year by considering several factors including Lake Powell and Lake Mead storage, projected Upper Basin and Lower Basin demands, and an assumed inflow.
3. Subject to April adjustments which may result in a release according to the Equalization Tier
4. Of which 2.48 maf is apportioned to Arizona, 4.4 maf to California, and 0.287 maf to Nevada
5. Of which 2.40 maf is apportioned to Arizona, 4.4 maf to California, and 0.283 maf to Nevada
6. Of which 2.32 maf is apportioned to Arizona, 4.4 maf to California, and 0.280 maf to Nevada
7. Whenever Lake Mead is below elevation 1,025 feet, the Secretary shall consider whether hydrologic conditions together with anticipated deliveries to the Lower Division States and Mexico is likely to cause the elevation at Lake Mead to fall below 1,000 feet. Such consideration, in consultation with the Basin States, may result in the undertaking of further measures, consistent with applicable Federal law.
Potential For Shortages

- The 2015 water year release was 9.0 MAF from Lake Powell.

- Water Year 2016 release from Lake Powell will be 8.23 MAF with an anticipated adjustment in April to 9.0 MAF.

- 0% probability of Tier 1 shortage in the Lower Basin in 2016 (based the 9.0 MAF release in water year 2015).

- 18% probability of Tier 1 shortage in the Lower Basin in 2017 (with 9.0 MAF release in water year 2016).

Based on Reclamation’s August 2015 Colorado River modeling.
## PROBABILITIES OF LOWER BASIN SHORTAGE

<table>
<thead>
<tr>
<th>Probability of any level of shortage (Mead ≤ 1,075 ft.)</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; level shortage (Mead ≤ 1,075 and ≥1,050 ft)</td>
<td>0</td>
<td>18</td>
<td>42</td>
<td>47</td>
<td>35</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; level shortage (Mead &lt;1,050 and ≥1,025 ft)</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; level shortage (Mead &lt;1,025)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

Lake Mead End of Month Elevations
Projections from August 2015 24-Month Study Inflow Scenarios

- **Surplus Conditions**: 1,145 ft and above
- **Normal Condition**: 1,075 to 1,145 ft
- **Level 1 Shortage Condition**: 1,050 to 1,075 ft
- **Level 2 Shortage Condition**: 1,025 to 1,060 ft
- **Level 3 Shortage Condition**: 1,025 ft and below

- **Lake Mead as of 8/16/15**
  - Elevation: 1,078.2 feet
  - Content: 9.9 maf, 38% Full

- **End of CY 2015 Projection**: 1,082.3 feet
- **End of CY 2016 Projection**: 1,079.6 feet

- **Historical Elevations**

Source: United States Bureau of Reclamation
Colorado River Basin
Water Supply Outlook

Total Reservoir System Contents:
30.12 MAF or 51%
(As of November 8, 2015)

Total Reservoir System Contents Last Year:
29.90 MAF or 50%

This is a change of + 0.22 MAF

Source: United States Bureau of Reclamation
LAKE POWELL
Capacity – 24.5 MAF
11/08/2015 – 51% full
Contents 12.37 MAF
Elevation – 3,606.35

Source: United States Bureau of Reclamation
Colorado River Basin Water Supply Outlook

LAKE MEAD
Capacity - 26 MAF
11/08/2015 - 38% full
Contents – 9.94 MAF
Elevation – 1,079.14’

Source: United States Bureau of Reclamation
Questions?