Overview of the Colorado River System

• 16.5 million acre-feet (maf) allocated annually
  - 7.5 maf each to Upper and Lower Basins
  - 1.5 maf to Mexico
• About 16 maf average annual “natural flow” (based on historical record)
  - 14.8 maf in the Upper Basin and 1.3 maf in the Lower Basin
• Inflows are highly variable from year-to-year
• 60 maf of storage (nearly 4-times the average annual inflow)
• Operations and water deliveries governed by the “Law of the River”
Natural Flow
Colorado River at Lees Ferry Gaging Station, Arizona
Water Year 1906 to 2017

Colorado River at Lees Ferry, AZ - Natural Flow

Provisional data, subject to change
Estimated values for 2015-2017
Unregulated Inflow into Lake Powell
Powell-Mead Storage and Percent Capacity

End of Water Year

Volume in MAF

0 5 10 15 20 25 30 35 40 45 50

Percent Capacity

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

End of Water Year


Unregulated Inflow

Powell and Mead Storage (MAF)

Powell and Mead Percent Capacity

Unregulated Inflow into Powell (MAF)

1Values for Water Year 2017 are projected. Unregulated inflow is based on the latest CBRFC forecast dated March 15, 2017. Storage and percent capacity are based on the March 2017 24-Month Study.

2Percentages 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.
Water Year Snowpack and Precipitation as of March 20, 2017

Colorado River Basin above Lake Powell

Water Year 2017 Precipitation (year-to-date) 123% of average

Current Snowpack 128% of median
CBRFC Upper Colorado April-July Inflow Forecast dated March 15, 2017

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>2017 April-July Inflow Forecast (percent of average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flaming Gorge</td>
<td>222</td>
</tr>
<tr>
<td>Blue Mesa</td>
<td>136</td>
</tr>
<tr>
<td>Navajo</td>
<td>103</td>
</tr>
<tr>
<td>Lake Powell</td>
<td>138</td>
</tr>
</tbody>
</table>

1 Percent of average is based on the period of record from 1981-2010
Lake Powell Capacity

**Equalization Tier**

Equalization Elevation (WY 2017)

**Upper Elevation Balancing Tier**

**Mid-Elevation Release Tier**

**Lower Elevation Balancing Tier**

**Minimum Power Pool**

**Dead Pool**

- Minimum Power Pool: 3,370 ft, 0.0 maf
- Lower Elevation Balancing Tier: 3,490 ft, 4.0 maf
- Mid-Elevation Release Tier: 3,525 ft, 5.9 maf
- Upper Elevation Balancing Tier: 3,575 ft, 9.5 maf
- Equalization Tier: 106 ft, 17.5 maf
- Equalization Elevation (WY 2017): 3,629 ft

*Projected end of Dec 2017 elevation. Solid line per the March 24-MS. Dotted lines per the Jan 24-MS (min and max probable).*

- Lake Powell Capacity: 3,490 ft, 11.20 maf
- Lower Elevation Balancing Tier: 3,370 ft, 2.0 maf
- Mid-Elevation Release Tier: 3,525 ft, 17.5 maf
- Upper Elevation Balancing Tier: 3,575 ft, 24.3 maf
- Equalization Tier: 3,640 ft, 46% of Live Capacity
Lower Basin Surplus & Shortage through 2026

Percent of Traces with Lower Basin Surplus or Shortage
Projections from the January 2017 MTOM/CRSS Run$^{1,2,3}$

<table>
<thead>
<tr>
<th>Year</th>
<th>Shortage of Any Amount</th>
<th>Surplus of Any Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>2018</td>
<td>10%</td>
<td>90%</td>
</tr>
<tr>
<td>2019</td>
<td>20%</td>
<td>80%</td>
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<tr>
<td>2020</td>
<td>30%</td>
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<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>2025</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>2026</td>
<td>90%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Initial conditions based on results from 35 simulations of December 31, 2017 conditions using the Mid-term Probabilistic Operations Model. The 35 initial conditions were coupled with 107 hydrologic inflow sequences based on resampling of the observed natural flow record from 1938-2017.
Drought Response Activities

- 2007 Interim Guidelines
- Minutes to Mexico Water Treaty
- Pilot System Conservation Program
- Drought Contingency Planning
Risk of Lake Mead Reaching Critically Low Elevations With LB DCP, DCP+, and Minute 32x

Projected Probability of Lake Mead Elevation Less than 1,025' in December

- Risk as assessed when 2007 Interim Guidelines were adopted
- Comparative current risk assessment as of January 2017 based on full historical hydrologic record
- Adjusted current risk assessment as of January 2017 assuming implementation of Lower Basin Drought Contingency Plan, DCP+, and Minute 32x
Questions?