24-Month Study Model

- Reservoir Operations
  - 12 major reservoirs (9 Upper Basin, 3 Lower Basin)

- 2-year projection, updated monthly

- Projected monthly reservoir conditions based on most probable inflow forecast
  - storage, elevation, release, hydropower, etc.
24-Month Study: Official Operations Model

- Projections for major Colorado Basin reservoirs
- Annual Operating Plan (AOP)
- Under the 2007 Interim Guidelines determines operating tiers for Lake Powell and Lake Mead
  - August projections are used to set tiers for upcoming year

  a) \( \text{Lake Powell} > 3575' = \text{Upper Elevation Balancing Tier (8.23 maf release)} \)
      
      or

  b) \( \text{Lake Powell} < 3575' = \text{Mid-Elevation Release Tier (7.48 maf release)} \)
Lake Powell Unregulated Inflow
Water Years 2013 and 2014 Forecast (issued August 1)
Comparison with History

**Water Year 2013 Forecast**
Aug Most Prob: 4.33 maf (40%)

**Water Year 2014 Forecast**
Aug Most Prob: 8.32 maf (77%)
Aug Min Prob: 5.00 maf (46%)
Aug Min Prob: 15.50 maf (143%)

Historic Average: 10.83 maf
# Lake Powell & Lake Mead Operational Table

## Operational Tier Determinations for Water Year/Calendar Year 2014

<table>
<thead>
<tr>
<th>Elevation (feet)</th>
<th>Lake Powell</th>
<th>Live Storage (maf)¹</th>
<th>Lake Mead</th>
<th>Live Storage (maf)¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,700</td>
<td>Equalization Tier Equalize, avoid spills or release 8.23 maf</td>
<td>24.3</td>
<td>1,220</td>
<td>Flood Control Surplus or Quantified Surplus Condition Deliver &gt; 7.5 maf</td>
</tr>
<tr>
<td>3,686 - 3,686 (2008-2026)</td>
<td>Upper Elevation Balancing Tier Release 8.23 maf; if Lake Mead &lt; 1,075 feet, balance contains with a min/max release of 7.0 and 9.0 maf</td>
<td>15.5 - 19.3 (2008-2026)</td>
<td>1,200 (approx.)²</td>
<td>Domestic Surplus or ICS Surplus Condition Deliver &gt; 7.5 maf</td>
</tr>
<tr>
<td>3,575</td>
<td>3,573.69</td>
<td>9.6</td>
<td>1,145</td>
<td>Normal or ICS Surplus Condition Deliver ≥ 7.5 maf</td>
</tr>
<tr>
<td>1/1/14 Projection¹</td>
<td>Mid-Elevation Release Tier Release 7.48 maf; if Lake Mead &lt; 1,025 feet, release 8.23 maf</td>
<td>5.6</td>
<td>1,105</td>
<td>1,103.08</td>
</tr>
<tr>
<td>3,525</td>
<td>Lower Elevation Balancing Tier Balance contains with a min/max release of 7.0 and 9.5 maf</td>
<td>4.0</td>
<td>1,075</td>
<td>1/1/14 Projection</td>
</tr>
<tr>
<td>3,490</td>
<td>895</td>
<td>0.0</td>
<td>1,050</td>
<td>Shortage Condition Deliver 7.167¹ maf</td>
</tr>
<tr>
<td>3,370</td>
<td></td>
<td></td>
<td>1,025</td>
<td>Shortage Condition Deliver 7.0³ maf</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
<td>Shortage Condition Deliver 7.0 maf Further measures may be undertaken³</td>
</tr>
</tbody>
</table>

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¹ Lake Powell's projected elevation is based on an 8.23 maf annual release pattern from in water year 2014.

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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 0.227 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.
End of Calendar Year 2013 Projections
August 2013 24-Month Study Most Probable Inflow Scenario

Based on a 7.48 maf release pattern from Lake Powell in Water Year 2014

Lake Powell
- 24.322 maf
- 17.0 maf
- 9.5 maf
- 5.9 maf
- 0.0 maf
- Dead Storage
- 1.9 maf
- 3,578.3 feet
- 9.9 maf in storage
- 41% of capacity

Lake Mead
- 1,219.6 maf
- 1,145 maf
- 1,105 maf
- 1,075 maf
- 1,025 maf
- 3,700 maf
- 1,103.1 feet
- 12.0 maf in storage
- 46% of capacity

Not to Scale

1 WY 2014 unregulated inflow into Lake Powell is based on the CBRFC outlook dated 8/1/13.
Lake Mead End of Month Elevations
Preliminary Projections from August 2013 24-Month Study Inflow Scenarios

- Surplus Conditions: 1,145 ft and above
- Normal Condition: 1,075 to 1,145 ft
- Shortage Conditions: 1,075 ft and below

- August 2013 Probable Maximum Preliminary Results
- August 2013 Most Probable with 7.48 maf Release from Lake Powell in Water Year 2014
- August 2013 Probable Minimum Preliminary Results
- Historical Elevations
**Projected Lake Mead Operational Tiers**
Based on Preliminary August 2013 24-Month Study Inflow Scenarios

<table>
<thead>
<tr>
<th>Powell Inflow Scenario</th>
<th>CY 2014</th>
<th>CY 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan 1, 2014 Projection</td>
<td>Jan 1, 2015 Projections</td>
</tr>
<tr>
<td>Probable Minimum</td>
<td>Normal - ICS Surplus Condition</td>
<td>Normal - ICS Surplus Condition</td>
</tr>
<tr>
<td></td>
<td>Elevation 1,103.08 ft</td>
<td>Elevation 1,076.76 ft</td>
</tr>
<tr>
<td>Most Probable</td>
<td>Normal - ICS Surplus Condition</td>
<td>Normal - ICS Surplus Condition</td>
</tr>
<tr>
<td></td>
<td>Elevation 1,103.08 ft</td>
<td>Elevation 1,082.98 ft</td>
</tr>
<tr>
<td>Probable Maximum</td>
<td>Normal - ICS Surplus Condition</td>
<td>Normal - ICS Surplus Condition</td>
</tr>
<tr>
<td></td>
<td>Elevation 1,093.94 ft</td>
<td>Elevation 1,093.94 ft</td>
</tr>
</tbody>
</table>
2013 IID Water Use Status

• August 2, 2013 – Reclamation issued its approval of IID’s 2013 water order for a consumptive use limit of up to 2,632,630 AF (adjusted for transfer obligations and 25,000 AF of ICS).

• August 9, 2013 – In conformance with IOPP guidelines, Reclamation issued IID a “Notification of Risk of Exceeding 2013 Adjusted Entitlement” letter based on the August 1 overrun forecast of 1,619 AF.
  ▪ The letter expressed appreciation for efforts taken to reduce IID’s water use from a forecasted high of 28,463 AF over its approved water order.
  ▪ The letter reminded IID that should its 2013 consumptive use exceed its approved water order, Reclamation will be required under Section 2.9 of the IOPP to begin enforcement proceedings and limit releases to IID in 2014.