CAP Water User’s Briefing: 2023 Look Ahead

CAP Headquarters and Livestreamed
June 23, 2022
Meeting Logistics

• Comments and questions may be sent by email to: questions@cap-az.com

• Meeting material is posted on the CAP website under “Meetings” → “Briefings and Roundtables”
  • www.cap-az.com
Agenda

• Welcome and Opening Remarks—Cooke
• Current Hydrology and Basin Status—Dent
• 2023 CAP Shortage Impacts and Preparation
  • Shortage Projections—Seasholes
  • Water and Power Operations—Francom
  • Finances—Dunlap
  • Communications and Outreach—Schwartz-Manock
• Questions
• Next Steps
Current Hydrology and Basin Status

Patrick Dent
Assistant General Manager, Water Policy
Lake Powell Inflows

SWE peaked at 90% of the peak seasonal median on March 24, 2022.

<table>
<thead>
<tr>
<th>Inflow Year</th>
<th>MAF</th>
<th>% of 1991 to 2020 Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>WY 2022*</td>
<td>5.61</td>
<td>58%</td>
</tr>
<tr>
<td>WY 2021</td>
<td>3.50</td>
<td>37%</td>
</tr>
<tr>
<td>WY 2020</td>
<td>5.85</td>
<td>61%</td>
</tr>
<tr>
<td>3-year average**</td>
<td>4.99</td>
<td>52%</td>
</tr>
<tr>
<td>Average for WY 2001 - WY 2004</td>
<td>5.43</td>
<td>56%</td>
</tr>
</tbody>
</table>

*Colorado Basin River Forecast Center, June 3, 2022 forecast
** Includes WY 2022 forecasted volume.
Lake Powell Inflows

WY  AVG all WY (10.4 MAF)  AVG 1988-2021 WY (9.1 MAF)  AVG 2000-2021 WY (8.4 MAF)

Water Year 2022, June Forecast
Min Prob = 4.93 MAF (51%)
Most Prob = 5.61 MAF (58%)
Max Prob = 8.98 MAF (94%)

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Lake Powell and Mead Contents

End of Calendar Year 2022 Projections
June 2022 24-Month Study Most Probable Inflow Scenario

Lake Powell

- Physical: 24.3 maf
- Effective: 26.1 maf
- Water Level: 3,700 ft
- Inflow: 3,519.66 ft, 5.60 maf, 23% capacity
- Dead Storage: 0.0 maf, 1.9 maf

Lake Mead

- Physical: 1,075 ft
- Effective: 1,045.95 ft
- Water Level: 1,219.6 ft
- Inflow: 1,039.06 ft, 6.91 maf, 26% capacity
- Dead Storage: 0.0 maf, 2.5 maf

CAP
CENTRAL ARIZONA PROJECT
Lake Powell Elevations
June 2022 24-Month Study + CRMMS-ESP

**EOY 2022**
- Max: 3,527'
- Most (Physical): 3,520'
- Min: 3,513'

**EOY 2023**
- Max: 3,556'
- Most (Physical): 3,519'
- Min: 3,504'

**WY 2022 Lake Powell Release**
- Max Probable = 7.00 MAF
- Most Probable = 7.00 MAF
- Min Probable = 7.00 MAF

**WY 2023 Lake Powell Release**
- Max Probable = 8.90 MAF
- Most Probable = 7.048 MAF
- Min Probable = 7.00 MAF
Lake Mead Elevations
June 2022 24-Month Study + CRMMS-ESP

EOY 2022
Max: 1,046'
Most (Physical): 1,039'
Min: 1,038'

EOY 2023
Max: 1,042'
Most (Physical): 1,019'
Min: 1,011'
Combined Powell & Mead Contents: Volume Above Critical Elevations

Lake Mead, Vol. >1,000'
Lake Powell, Vol. >3,500'
AVG 1991-2021 WY INFLOW (9.4 MAF)
Unreg. Inflow to Lake Powell

Provisional
(June 13, 2022)
Combined Powell & Mead Contents: Volume Above Critical Elevations

- Lakes Powell & Mead Critical Volumes & Unregulated Inflow to Lake Powell
  - Lake Mead, Vol. >1,000'
  - Lake Powell, Vol. >3,500'
  - AVG 1991-2021 WY INFLOW (9.4 MAF)
  - Unreg. Inflow to Lake Powell

Provisional (June 13, 2022)
**Lower Basin “Mass Balance”**

**Estimated** Calendar Year 2022 Physical Supply Accounting as of April 28, 2022 [Presented @ May 6, 2022 ADWR/CAP Joint Briefing]

<table>
<thead>
<tr>
<th>Supply / Demand</th>
<th>Volume (MAF)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Planned</td>
<td>“Normal”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powell release</td>
<td>7.00</td>
<td>8.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervening flows</td>
<td>0.78</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Mead evaporation</td>
<td>(0.45)</td>
<td>(0.45)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery Losses &amp; Bypass Flows</td>
<td>(0.74)</td>
<td>(0.74)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Consumptive uses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nevada</td>
<td>(0.26)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arizona</td>
<td>(2.11)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>(4.59)</td>
<td>(8.38)</td>
<td>(8.38)</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>(1.42)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Data based on Bureau of Reclamation reservoir release data, decree accounting, and 24-Month Study.*

| Change in Lake Mead Storage            | (1.79)*       | (0.56)**|         |         |
|** Equivalent to a decline of ~23 feet of elevation.** |             |         |         |         |
|** Equivalent to a decline of ~6 feet of elevation.** |             |         |         |         |

Basic apportionment is 0.3 MAF
Basic apportionment is 2.8 MAF
Basic apportionment is 4.4 MAF (~0.2 MAF withdrawal of previously conserved water)
Allocation is 1.5 MAF
Reclamation’s Protection Volume Analysis

- Reclamation recently presented modeling results showing the volumes necessary to protect critical elevations.
- Large annual reductions are required if inflows remain below average.

Extracted from June 16, 2022 “Colorado River System Mid-term Projections” presentation at 42nd Annual Colorado Law Conference on Natural Resources, Boulder, Colorado.
Reclamation’s Protection Volume Analysis

• Reclamation’s summary conclusions emphasize the urgency of acting and the implications of delay.

Summary

• We do not know what runoff will be next year, but if it is below average, we are vulnerable to falling below the 3,525’/1,020’ combined storage volume if we do not act.

• Even with a good year, we can quickly be back in the same position we are in today, or worse.

• If 2023 inflow is like 2022, Lake Powell and Lake Mead together need an additional 2.5 maf to stay above the 3,525’/1,020’ combined storage volume.

• Each year we fall short of protecting whatever elevations we choose to protect, the volumes needed to stabilize the system in future years increase.

Slide from June 16, 2022 “Colorado River System Mid-term Projections” presentation at 42nd Annual Colorado Law Conference on Natural Resources, Boulder, Colorado.
2023 CAP Shortage Impacts and Preparation: Shortage Projections

Ken Seasholes
Manager, Resource Planning & Analysis
Estimated 2023 Shortage Impacts

2007 Guideline Reductions and LBDCP Mandatory Contributions

• Current official projections still indicate the likelihood of Tier 2a determination in 2023
  
  o 1050’ <= Tier 2a > 1045’
Shortage Sharing Within Arizona

AZ Supply

P1-3

CAP P3

P4 Shortage Sharing

"Available CAP Supply"

"4th Priority Shortage Reduced Water Supply"

Mainstream P4 Supply

AWSA Indian/M&I Shortage Sharing

M&I Supply

Indian Supply
Shortage Sharing Within Arizona

AZ Supply

P1-3

CAP P3

68,400 AF (72,000 AF before 5% loss factor)
- Ak-Chin: 47,500 AF
- Gilbert: 6,424 AF
- Phoenix: 4,750 AF
- Chandler: 4,064 AF
- Glendale: 2,850 AF
- Mesa: 2,622 AF
- Scottsdale: 95 AF
- Tempe: 95 AF

Mainstream P4 Supply

AWSA Indian/M&I Shortage Sharing

M&I Supply

Indian Supply

Available "CAP Supply"
Shortage Sharing Within Arizona

"Available CAP Supply"

"4th Priority Shortage Reduced Water Supply"

Mainstream P4 Supply

M&I Supply

Indian Supply

2006 Director’s Shortage Sharing Workgroup Recommendation

"Available CAP Supply"

"4th Priority Shortage Reduced Water Supply"

Mainstream P4 Supply

M&I Supply

Indian Supply

2006 Director’s Shortage Sharing Workgroup Recommendation
Shortage Sharing Within Arizona

Available to Indian and M&I Priority

Available CAP Supply

M&I Priority

Indian Priority

AWSA Indian/M&I Shortage Sharing

M&I Supply

Indian Supply

Available CAP Supply

853,073 AF

981,902 AF

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Shortage Sharing Within Arizona

Distribution of 4th Priority CAP Delivery Supply Based on AWSA Formula and Estimated 2023 Water Orders*

<table>
<thead>
<tr>
<th>Delivery Supply [AF]</th>
<th>Indian Priority</th>
<th>M&amp;I Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pool Availability</td>
<td>Pool Size [AF]</td>
</tr>
<tr>
<td>500,000</td>
<td>47%</td>
<td>157,000</td>
</tr>
<tr>
<td>400,000</td>
<td>36%</td>
<td>120,600</td>
</tr>
<tr>
<td>300,000</td>
<td>25%</td>
<td>84,200</td>
</tr>
<tr>
<td>200,000</td>
<td>14%</td>
<td>47,900</td>
</tr>
<tr>
<td>100,000</td>
<td>4%</td>
<td>11,500</td>
</tr>
</tbody>
</table>

* For illustration purposes only.
CAP Water Uses

• There is a very large range in size of Indian and M&I priority entitlements:
  • Largest: 191,200 AF (Gila River Indian Community)
  • Smallest: 64 AF (Water Utility of Greater Tonopah)

• Indian priority water has been fully ordered and used in recent years
  • ~40% of the Indian priority supply is leased to, or exchanged with, M&I water users
    • Most leases are long-term

• Almost all M&I subcontractors have been ordering and using their full entitlements
CAP Water Use

- There is a diversity of end-uses: water treatment plants, annual storage & recovery, long-term storage credit accrual, mining, and some direct use by turf facilities and cooling towers
  - All uses are beneficial
  - All uses are compliant with contract and subcontract terms
- All users are impacted by shortage, though the specific impacts vary

*The split between Annual Storage & Recovery versus LTSC accrual is an estimate based on recent history and projections*
2023 CAP Shortage Impacts and Preparation: Water and Power Operations

Darrin Francom
Assistant General Manager, Operations, Maintenance, Engineering
**Water and Power Operations**

- **Diversion Pumping / Energy Shaping**
  - Continue – Focus Diversion Pumping On Low-Cost Months and Hours
  - 2023 Energy Acquisition Based on 1 MAF
  - Reduced Diversions Will Reduce Pumping Energy Rate
    - Reduce Energy Needs – Sell off Surplus (expect above purchase price)
    - Increased % of Energy Use in Low Cost “Duck Curve” Hours

- **Lake Pleasant Operations**
  - Fill Lake Pleasant in Spring, Release in Summer – Assume Same Seasonal Shape
  - Evaluate Operational Storage Reserve (2 month supply) – Could Lower Operating Band
    - Lower = Less Evaporative Losses
Water and Power Operations

• Water Quality
  • Strive to Maintain Water Consistency (Co. River vs. Lake Pleasant Blends)
  • Active Communication with WTP Operators
  • AquaPortal Real-Time Data Sharing

• Asset Management / Maintenance
  • Not Highly Impacted
  • Need to Manage Physical Assets Remains
2023 CAP Shortage Impacts and Preparation: Finances

Douglas Dunlap
Manager, Finance and Accounting
Finances

• 2023 shortage impacts are still being evaluated and will most likely evolve over the next several months

• Water Delivery Rates
  • Fixed OM&R will increase proportionately with water reductions
  • Energy may decrease
  • CAWCD Board will determine what, if any, relief to address rate increases
  • 2023 Monthly billing will be at the currently posted Tier 1 rates and then reconciled/settled in April 2024.
Finances

• CAWCD maintains reserves for unexpected events and extraordinary needs
  • **Board Established Reserves - Projection for 2022 Year End**
    • **Strategic Reserves**: $161 million
      - Should be maintained for unanticipated needs
    • **Extraordinary Cost Reserve**: $188 million
      - Though established for specific projects, could be temporarily redirected for current needs
  
• **2023/2024 Tax Revenues**
  • Levied rates and usage to be determined by the CAWCD Board
    • General ad valorem taxes is estimated at $69M at 10-cents per Assessed Value
    • Water storage tax is estimated at $28M at 4-cents per Assessed Value
2023 CAP Shortage Impacts and Preparation: Communications and Outreach

Bridget Schwartz-Manock
Director, Public Affairs
Stakeholder Outreach and Communications

- CAP is committed to meeting regularly with water users and stakeholders to share information, solicit feedback and to provide timely information
  - Board Member Outreach
  - Water Users Briefings
  - Roundtables
  - Individualized meetings with CAP staff
  - Community presentations
  - CAP University
  - KnowYourWaterNews.com
Stakeholder & Community Relations Team

- Tony Staffaroni – Stakeholder & Community Relations Manager
  - astaffaroni@cap-az.com 623.869.2397
- Mitch Basefsky – Outreach Coordinator
  - Pima and Pinal counties
- Martin Stiles – Outreach Coordinator
  - West Valley cites and towns
- Tammi Watson – Outreach Coordinator
  - East Valley cities and towns
- Thomas Throssell – Outreach Coordinator
  - Tribal outreach
Points of Contact

• Jeff Gray – Legislative Affairs Manager
  • State and Federal Officials
    • jgray@cap-az.com
    • 623.869.2425

• DeEtte Person - PIO
  • Media Inquiries
    • dperson@cap-az.com
    • 623.869.2597
Questions?
Next Steps & Closing Remarks