Joint Colorado River Shortage Preparedness Briefing

Tom Buschatzke, ADWR Director

Ted Cooke, CAP General Manager

April 29, 2021
Agenda

• Purpose
• Colorado River Basin Current Conditions and Operational Update
• Arizona’s Drought Contingency Implementation Plan
• Impacts of Shortage on CAP Water Supplies
• Next Steps
• Questions
• Closing Remarks
Meeting Logistics

• Electronic public comment forms are available for anyone wishing to submit a comment or question during the meeting
  - www.cap-az.com/shortagefeedback

• Submissions will be addressed during the questions period at the end of the meeting.

• Meeting material will be posted on the ADWR and CAP pages
  - new.azwater.gov
  - www.cap-az.com
Lake Mead Status and Shortage Triggers

End of Year Elevation Triggers

1,220’ (100%; “Max Live Storage”)
1,165’ (97%)
1,140’ (94%)
1,115’ (91%)
1,090’ (88%)
1,075’ (85%)
1,050’ (82%)
1,025’ (79%)
1,000’ (76%)
975’ (73%)
950’ (70%)
925’ (67%)
900’ (64%)
875’ (61%)
850’ (58%)
825’ (55%)
800’ (52%)
775’ (49%)
750’ (46%)
725’ (43%)
700’ (40%)
675’ (37%)
650’ (34%)
625’ (31%)
600’ (28%)
575’ (25%)
550’ (22%)
525’ (19%)
500’ (16%)
475’ (13%)
450’ (10%)
425’ (7%)
400’ (4%)
375’ (1%)
350’ (0%)

Projected end of year elevation: 1,067’

Current Contents
(1,080’; 38% full)
As of 4/27/21

Tier 1 (512,000 AF)
Tier 2a (592,000 AF) Tier 2b (640,000 AF)
Tier 3 (720,000 AF)
Tier 0 (192,000 AF)
20 Years of Shortage Preparation

Lake Mead Elevation
2000 to 2023 (Observed & Projected)

- 2002 Inflow
- 2007 Guidelines
- 2012 Basin Study
- Minute 319
- Minute 323
- DCP
- ICS & System Conservation Programs
  ‘14 – ’21 Arizona’s Contribution = 1.8 MAF

Shortage Preparedness Briefing
Preparation for Potential 2022 Shortage: Arizona’s 2021 Activities

24-Month Study

Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec

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Agency Coordination Meetings

<table>
<thead>
<tr>
<th>CAP/ADWR Briefing</th>
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CAP Water Users Shortage Briefing

CAP Annual Water Users Briefing

CAP Water Orders Due

CAP AOP Development

Mitigation Parties Coordination Meetings

<table>
<thead>
<tr>
<th>ADWR and CAP Individual and Group Stakeholder Engagement</th>
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CAP Water Order Coordination

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Preparation

Coordination

Implementation
Colorado River Basin
Current Conditions and
Operational Update

Daniel Bunk
Chief, Boulder Canyon Operations Office
Bureau of Reclamation, Interior Region 8

Arizona Shortage Preparedness Briefing
April 29, 2021
Colorado River Basin Storage  
as of April 26, 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>35%</td>
<td>8.56</td>
<td>3,563</td>
</tr>
<tr>
<td>Lake Mead</td>
<td>38%</td>
<td>10.1</td>
<td>1,080</td>
</tr>
<tr>
<td>Total System Storage</td>
<td>43%</td>
<td>25.7</td>
<td>NA</td>
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</tbody>
</table>

Total system storage was 52% of capacity, with 30.7 maf in storage, this time last year.
Upper Colorado River Basin
Water Year 2021 Snowpack and Inflow into Lake Powell

Water Year 2021 Forecasted Inflow

4.40 maf
(5,430 mcm)

41% of average

Snowpack peaked at 89% of Median on March 30
Lake Powell Unregulated Inflow
Water Years 1964 through 2021

Water Year 2021 Lake Powell Inflow
Apr Most Probable: 4.40 maf (5,430 mcm) (41%)
Apr Min Probable: 3.33 maf (4,110 mcm) (31%)
Apr Max Probable: 7.49 maf (9,240 mcm) (69%)
End of Calendar Year 2021 Projections
April 2021 24-Month Study Most Probable Inflow Scenario

Based on a Lake Powell release of 8.23 maf in WY 2021 and 7.48 maf in WY 2022

Projections based on the April 2021 24-Month Study

The operational determination for 2022 will be made in August

Not to Scale

† WY 2021 unregulated inflow into Lake Powell is based on the CBRFC forecast dated 4/2/21.
### Shortage Reductions and Water Savings Contributions

**Under the 2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan (DCP)*, and Binational Water Scarcity Contingency Plan (Volumes in thousand acre-feet)**

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<thead>
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<tbody>
<tr>
<td>AZ</td>
<td>NV</td>
<td>Mexico</td>
<td>Lower Basin States + Mexico</td>
<td>AZ NV CA</td>
<td>Mexico</td>
<td>LAZ Total                  NV Total                  CA Total                  Lower Basin States Total                  Mexico Total                  Lower Basin States + Mexico</td>
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<tr>
<td>1,090 - &gt; 1,075</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>192 8 0</td>
<td>192 8 0</td>
<td>200 41</td>
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<tr>
<td>1,075 - &gt; 1,050</td>
<td>320</td>
<td>13</td>
<td>50</td>
<td>383</td>
<td>192 8 0</td>
<td>30</td>
<td>512 21 0</td>
</tr>
<tr>
<td>1,050 - &gt; 1,045</td>
<td>400</td>
<td>17</td>
<td>70</td>
<td>487</td>
<td>192 8 0</td>
<td>34</td>
<td>592 25 0</td>
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<tr>
<td>1,045 - &gt; 1,040</td>
<td>400</td>
<td>17</td>
<td>70</td>
<td>487</td>
<td>240 10 200</td>
<td>76</td>
<td>640 27 200</td>
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<tr>
<td>1,040 - &gt; 1,035</td>
<td>400</td>
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<td>487</td>
<td>240 10 250</td>
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<td>640 27 250</td>
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<td>1,035 - &gt; 1,030</td>
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<td>240 10 300</td>
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<td>640 27 300</td>
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<td>1,030 – 1,025</td>
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<td>70</td>
<td>487</td>
<td>240 10 350</td>
<td>101</td>
<td>640 27 350</td>
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<tr>
<td>&lt; 1,025</td>
<td>480</td>
<td>20</td>
<td>125</td>
<td>625</td>
<td>240 10 350</td>
<td>150</td>
<td>720 30 350</td>
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*Under the Lower Basin DCP, the United States will take affirmative actions to create or conserve 100,000 acre-feet or more of Colorado River system water on an annual basis 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 federal law, including availability of appropriations.
Reclamation – Timeline of Next Steps
In preparation for a potential 2022 Shortage Condition

<table>
<thead>
<tr>
<th>Months remaining in 2021</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
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<tbody>
<tr>
<td>Outreach and coordination with Colorado River water users(^1) and Mexico about a potential Tier 1 Shortage Condition in 2022</td>
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<tr>
<td>Request 2022 water orders</td>
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<tr>
<td>Review 2022 water orders and conduct annual coordination meetings</td>
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<td></td>
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<tr>
<td>Finalize 2022 water orders</td>
<td></td>
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</table>

By June 1, notify CAP tribes of projected water supply condition in 2022

Continue outreach and coordination with Colorado River water users and Mexico

Publish August 24-Month Study

Potential notification of Tier 1 Shortage Condition in 2022

\(^1\)Includes CAP, on-river water users, and tribes with mainstream priority 4 and 5 entitlements in Arizona and SNWA in Nevada
Arizona’s Drought Contingency Implementation Plan
Context: Lower Basin Drought Contingency Plan

• Reduced the risk of critically low Lake Mead elevations

• Collective action, among all the Basin States, the United States and Mexico, to reduce the risk to everyone

• Even with increased conservation efforts, a Tier 1 shortage was expected and planned for
Context: Colorado River Priorities and Uses in AZ (2019)

- **Priority 6**: Entitlements to Surplus Water
- **Priority 5**: Unused Arizona Entitlement or Apportionment
- **Priority 4**: Post-September 30, 1968 contracts, Secretarial Reservations, and Perfected Rights
- **Priority 3**: Entitlements pursuant to contracts between the United States and water users in the State of Arizona executed on or before September 30, 1968
- **Priority 2**: Secretarial Reservations and Perfected Rights established or effective prior to September 30, 1968
- **Priority 1**: Present Perfected Rights as defined and provided for in the Decree
Process: Arizona DCP Steering Committee

• DCP Steering Committee – over 40 Arizona water leaders representing: Arizona Legislature, water managers, tribes, cities, irrigation districts, developers, industry, and environmental organizations, co-chaired by ADWR and CAP

• 24 participants contributing water, funding and infrastructure

- ADWR (funding)
- Avondale (water)
- AWBA (funding and credits)
- BOR (funding)
- CAIDDD
- CAWCD (water and funding)
- Chandler (water)
- CRIT (water)
- EDF (funding)
- EPCOR (water)
- Freeport Minerals (water)
- Goodyear (water)
- GRIC (water)
- HIDD
- HVIDD
- MSIDDD
- NMIDDD
- Peoria (water)
- Phoenix (water)
- QCIDDD
- SCIDDD
- Scottsdale (water)
- SRP (water)
- Tucson (water)
Arizona DCP Implementation Plan

- **Mitigation** – lessens some of the impacts of DCP shortage reductions

- **Offset** - Additional Lake Mead contributions to offset potential impact to Lake Mead from use of CAWCD ICS for mitigation
Impacts of Shortage on CAP Water Supplies
• “Block Chart” illustrates delivery requests by CAP priority
  o Higher priority entitlements are towards the bottom of the chart
• The names of the “pools” do not neatly align with uses
• Assumptions for 2022:
  o 1.595 MAF delivery supply prior to reductions
  o Water orders similar to 2021
  o Includes NIA Reallocation
CAP Priorities—Tier 1 Shortage

- **512,000 AF** Reduction/Contribution
  - 320,000 AF per 2007 Guideline
  - 192,000 AF per LBDCP

- **Pre-Mitigation Impacts**
  - 100% Reduction to Ag Pool
  - ~60% Reduction to NIA Pool

*P5/6 reductions accounted for separately.*
Mitigation Commitments

<table>
<thead>
<tr>
<th>Year</th>
<th>Ag Pool Parties</th>
<th>NIA Contractors &amp; Subcontractors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>105 KAF - Tier 1</td>
<td>15 KAF - Tiers 1/2a/2b</td>
</tr>
<tr>
<td>2021</td>
<td>70 KAF - Tiers 2a/2b</td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>No CAP Wet Water Mitigation</td>
<td>No Mitigation</td>
</tr>
<tr>
<td>2023</td>
<td>Groundwater Infrastructure Program 70 KAF / Yr</td>
<td>2026 or Tier 3</td>
</tr>
<tr>
<td>2024</td>
<td>75%* - Tiers 1/2a</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>50%* - Tier 2b</td>
<td></td>
</tr>
<tr>
<td>2026</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GW 16.5K

Shortage Preparedness Briefing
• Starting point is a shortage-reduced CAP supply of
  ~1,083,000 AF
  ~100,000 AF available to the NIA pool
2022 – Tier 1 Shortage

The NIA-priority pool is fully mitigated with a combination of credits, money, redirected CAP water, and water from Lake Pleasant and Lake Mead.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Volume (AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAWCD ICS &amp; Lake Pleasant</td>
<td>72,100</td>
</tr>
<tr>
<td>SRP Exchange</td>
<td>10,000</td>
</tr>
<tr>
<td>Compensated Mitigation</td>
<td>40,000</td>
</tr>
<tr>
<td>State &amp; Federal Firming</td>
<td>25,800</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>147,900</strong></td>
</tr>
</tbody>
</table>
The Ag Pool parties are mitigated with a combination of money for new wells, redirected CAP water from cities and others, and water from Lake Mead.
2022 – Tier 1 Shortage

Volume [AF]

Mitigation Water
Firming
Compensated Mitigation
CAP-SRP Exchange
Urban-To-Ag

2022 – Tier 1 Prior to Mitigation

Shortage Preparedness Briefing
Offset Status & CAWCD ICS Utilization

- The Offset target of 400 KAF will be exceeded by the end of 2022
- An estimated 69,100 AF of CAWCD ICS may be required for Mitigation in 2022
- Remaining CAWCD ICS (est. 400 KAF) is sufficient to meet Mitigation requirements estimated for 2023 through 2025
2022 – Tier 1 Shortage

CAP Reductions

Drought Contingency Plan (DCP) Tiers
Lake Mead Surface Elevation

- DCP Tier Zero: 1,090’
- DCP Tier 1: 1,075’
- DCP Tier 2a: 1,050’
- DCP Tier 2b: 1,045’
- DCP Tier 3: 1,025’

Estimated elevation on Jan. 1, 2022

CAP Supply

Volume (AF)

- 1,600,000
- 1,400,000
- 1,200,000
- 1,000,000
- 800,000
- 600,000
- 400,000
- 200,000
- 0

Reduction to CAP Delivery Supply
DCP Mitigation
CAP Delivery Supply Under Tier 1

* Graphics are not to scale and serve only as a representation.

To learn more, please visit: www.cap-az.com/colorado-river-shortage
Next Steps

![Diagram showing the schedule of events over 12 months, divided into Preparation, Coordination, and Implementation phases. The diagram highlights key dates and activities, such as CAP/ADWR Briefing in April, CAP Water Users Shortage Briefing in June, CAP Annual Water Users Briefing in July, CAP Water Orders Due in August, CAP AOP Development in September, ADWR and CAP Individual and Group Stakeholder Engagement in November, and CAP Water Order Coordination in December.]

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24-Month Study

Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec


Preparation | Coordination | Implementation
Questions

• Submit questions or comments using the electronic public comment form at:

  www.cap-az.com/shortagefeedback
Closing Remarks

For additional information and updates, visit

ADWR: new.azwater.gov
CAP: www.cap-az.com
Reclamation: www.usbr.gov