Arizona Lower Basin Drought Contingency Plan Update

Arizona Senate Water and Agriculture Committee

Tom Buschatzke, Director, ADWR
Ted Cooke, General Manager, CAP

April 17, 2019
Ongoing historic drought conditions in the Colorado River Basin have increased the risks of Colorado River reservoirs - Lake Mead and Lake Powell - declining to critically low elevations.

The Lower Basin is facing increased risk of severe shortages to Colorado River supplies.

Interstate Drought Contingency Plans have been negotiated among the seven Colorado River Basin states to reduce risks to the Basin.
Risk of Lake Mead < 1,020’

Full Hydrology (1906-2015)

- 2007 Projections (1906-2005 hydrology)
  - No DCP (April 2018 Projections)
  - With DCP (April 2018 Projections with Upper & Lower Basin DCPs & Binational WSCP)

Stress Test Hydrology (1988-2015)

- 2007 Projections (1906-2005 hydrology)
  - No DCP (April 2018 Projections)
  - With DCP (April 2018 Projections with Upper & Lower Basin DCPs & Binational WSCP)

5.7 maf
22%
1,020’
## 2007 Interim Guidelines Shortage Reductions and Incremental DCP Contributions

<table>
<thead>
<tr>
<th>Lake Mead Elevation</th>
<th>AZ 2007</th>
<th>AZ DCP</th>
<th>AZ TOTAL</th>
<th>NV 2007</th>
<th>NV DCP</th>
<th>NV TOTAL</th>
<th>CA 2007</th>
<th>CA DCP</th>
<th>CA TOTAL</th>
<th>BOR DCP</th>
<th>MX Min 323</th>
<th>MX BWSCP</th>
<th>MX Total</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>≤1090 &gt;1075</td>
<td>0</td>
<td>192K</td>
<td>192K</td>
<td>0</td>
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<td>0</td>
<td>100k</td>
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<td>41k</td>
<td>41k</td>
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<tr>
<td>≤1075&gt;1050</td>
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<td>192K</td>
<td>512K</td>
<td>13K</td>
<td>8K</td>
<td>21K</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100k</td>
<td>50k</td>
<td>30k</td>
<td>80k</td>
<td>713k</td>
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<td>≤1050&gt;1045</td>
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<td>192K</td>
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<td>8K</td>
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<td>0</td>
<td>100k</td>
<td>70k</td>
<td>34k</td>
<td>104k</td>
<td>821k</td>
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<tr>
<td>≤1045&gt;1040</td>
<td>400K</td>
<td>240K</td>
<td>640K</td>
<td>17K</td>
<td>10K</td>
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<td>200K</td>
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<td>100k</td>
<td>70k</td>
<td>76k</td>
<td>146k</td>
<td>1,113k</td>
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<td>400K</td>
<td>240K</td>
<td>640K</td>
<td>17K</td>
<td>10K</td>
<td>27K</td>
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<td>250K</td>
<td>250K</td>
<td>100k</td>
<td>70k</td>
<td>84k</td>
<td>154k</td>
<td>1,171k</td>
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<tr>
<td>≤1035&gt;1030</td>
<td>400K</td>
<td>240K</td>
<td>640K</td>
<td>17K</td>
<td>10K</td>
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<td>100k</td>
<td>70k</td>
<td>92k</td>
<td>162k</td>
<td>1,229k</td>
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<td>≤1030&gt;1025</td>
<td>400K</td>
<td>240K</td>
<td>640K</td>
<td>17K</td>
<td>10K</td>
<td>27K</td>
<td>0</td>
<td>350K</td>
<td>350K</td>
<td>100k</td>
<td>70k</td>
<td>101k</td>
<td>171k</td>
<td>1,288k</td>
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<td>≤1025</td>
<td>480K</td>
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<td>720K</td>
<td>20K</td>
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<td>30K</td>
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<td>100k</td>
<td>125k</td>
<td>150k</td>
<td>275k</td>
<td>1,475k</td>
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</tbody>
</table>
CAP Priority Pools & Shortage

### 2007 Guidelines

- **Indian Priority**
- **M&I Priority**
- **NIA Priority**
- **Ag Pool**
- **Other Excess**

### LBDCP

- **Indian Priority**
- **M&I Priority**
- **NIA Priority**
- **Ag Pool**
- **Other Excess**

- **Priority 3**

- **T1**
- **T2**
- **T3**

Acre Feet
Mitigation Component- Key Terms

- 2020 – 2022
  - 100% mitigation for NIA Pool (annual determination of vol.)
  - Fixed volume for CAP AG, dependent on annual tier determination

- 2023 – 2025
  - No CAP Ag Mitigation (except USF to GSF and groundwater infrastructure)
  - M&I and Indian priority fully mitigated first
  - NIA volume based on actual orders/operating conditions
  - NIA 75% under T1 and T2a (until no supplies)
  - NIA 50% under T2b (until no supplies)

- 2026
  - Zero mitigation
  - No mitigation for any water user in T3 or 2026, whichever occurs first
# AZ LBDCP Mitigation Projected Program Summary

<table>
<thead>
<tr>
<th>Year</th>
<th>Ag Pool</th>
<th>NIA Pool</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>105 KAF Tier 1</td>
<td>100% Tier 1/2a/2b</td>
<td>CAWCD ICS ~400 KAF (includes 50 KAF SRP Exchange)</td>
</tr>
<tr>
<td>2021</td>
<td>105 KAF Tier 1</td>
<td>100% Tier 1/2a/2b</td>
<td>CAWCD Lake Pleasant ~50 KAF</td>
</tr>
<tr>
<td>2022</td>
<td>** 70 KAF Tier 2a/2b</td>
<td>100% Tier 1/2a/2b</td>
<td>CAWCD Operational Supplies ~30 KAF</td>
</tr>
<tr>
<td>2023</td>
<td>** 75%* Tier 1/2a</td>
<td>75%* Tier 1/2a</td>
<td>CAWCD $60 Million for Compensated Mitigation or acquisition of additional wet water mitigation supplies</td>
</tr>
<tr>
<td>2024</td>
<td>** 75%* Tier 1/2a</td>
<td>50%* Tier 2b</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>No CAP Wet Water Mitigation</td>
<td>** Groundwater Infrastructure Program 70 KAF / Yr</td>
<td></td>
</tr>
<tr>
<td>2026</td>
<td>No Mitigation</td>
<td>NO Mitigation 2026 or Tier 3</td>
<td></td>
</tr>
</tbody>
</table>

* Until no supplies

** Tier 2a/2b
AZ LBDCP Mitigation Program Summary – Anticipated Deliveries Improved Hydrology 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Ag Pool</th>
<th>NIA Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>75% or ~230 KAF</td>
<td>100% or ~203 KAF</td>
</tr>
<tr>
<td>2021</td>
<td>105 KAF Tier 1</td>
<td>100% Tier 1/2a/2b</td>
</tr>
<tr>
<td>2022</td>
<td>105 KAF Tier 1</td>
<td>100% Tier 1/2a/2b</td>
</tr>
<tr>
<td>2023</td>
<td>No CAP Wet Water Mitigation</td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td>Groundwater Infrastructure Program</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>70 KAF/Yr</td>
<td></td>
</tr>
<tr>
<td>2026</td>
<td>No Mitigation 2026 or Tier 3</td>
<td></td>
</tr>
</tbody>
</table>

No shortage
AZ LBDCP Mitigation Program
Summary – Resources

Resources

- Phoenix AMA USF-GSF ~46.5 KAF/Yr
  Tier 1 or Tier 2a only
- Tucson AMA GSF 35 KAF/Yr
  ** Tier 2a/2b

CAWCD ICS ~400 KAF
(includes 50 KAF SRP Exchange)

- CAWCD Lake Pleasant ~50 KAF
- CAWCD Operational Supplies ~30 KAF

CAWCD $60 Million for Compensated Mitigation
or acquisition of additional wet water mitigation supplies
Offset Component– Key Terms

• Conserve 400 kaf to offset use of CAP ICS
• Offsets provided through:
  – 100 kaf US-GRIC ICS
    ▪ Pre-firming for US Tribal firming obligation
  – 50 kaf AWBA-GRIC ICS
    ▪ Pre-firming for Arizona’s AWSA firming obligation
  – 150 kaf System Conservation
  – 50 kaf Additional Tribal ICS
  – 50 kaf - CAP-SRP Exchange payback
  – May increase Lake Mead elevation
Participants in Funding & Water

- CAWCD: Funding and Water
- SRP: Water in exchange
- CAP M&I Users: Water for USF-GSF
- GRIC: Water for ICS and Firming
- CAP AG: Funding for GW infrastructure
- State of Arizona: Funding for GW infrastructure, System Conservation and Firming
- AWBA: LTSC for USF-GSF exchange, Firming
- US: Funding of GW Infrastructure and Firming
- NGOs: Funding for System Conservation
- CRIT: Water for System Conservation
Benefits of the Implementation Plan

- Mitigation (wet water) provided to the CAP Ag Districts to reduce the impacts of DCP on their water supplies
- Mitigation (wet water and funding) to the CAP Cities and Tribes to reduce the impacts of DCP on their water supplies
- Funding for new groundwater and efficiency infrastructure for CAP Ag Districts to reduce the impacts of DCP on their water supplies, and to enhance the recovery of underground storage for the AWBA
- Additional protection for Lake Mead through the Offset Program
Arizona DCP Legislative Recap

SJR1001/HJR2002 Colorado River Drought Contingency Plan

• Resolution to authorize* the ADWR Director to sign the Interstate DCP Agreements on behalf of the State of Arizona if:
  • Federal legislation passes directing the secretary of the interior to execute and implement the DCP agreements;
  • All parties other than the United States and the State of Arizona have authorized the execution of DCP agreements.
  • Both conditions have been met.

*A.R.S. § 45-106 states: “An agreement entered into between the [ADWR] director and the United States or a state or government involving a sovereign right or claim of this state is not effective unless approved by the legislature by concurrent resolution.”
Arizona Came Together and Got It Done
## Completed Actions Necessary for AZ to Execute the Lower Basin Drought Contingency Plan Agreements

<table>
<thead>
<tr>
<th>#</th>
<th>Action</th>
<th>Parties</th>
<th>Status</th>
</tr>
</thead>
</table>
| 1  | State legislation authorizing ADWR, on behalf of the State of Arizona, to execute the LBDCP Agreements | Arizona legislature      | • Passed on January 31, 2019  
• Signed by Governor Ducey on January 31, 2019  
• Immediately effective |
| 2  | Agreement Regarding Lower Basin Drought Contingency Plan Obligations    | CAWCD and the United States | • Final Agreement  
• Approved by CAWCD Board on 1/31/19  
• To be executed by the U.S. with all DCP Agreements |
| 3  | Arizona ICS Framework Agreement                                         | United States, CAWCD and ADWR | • Final Agreement  
• Approved by CAWCD Board on 3/7/19  
• Awaiting execution by ADWR and the United States |
| 4  | Exchange of Letters between CAWCD and ADWR                              | CAWCD and ADWR           | • Completed  
• Letters executed and exchanged on 1/30/19 |
<table>
<thead>
<tr>
<th>#</th>
<th>Agreement Name</th>
<th>Parties</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overarching Implementation Agreement</td>
<td>CAWCD, ADWR and others TBD</td>
<td>Term Sheet drafted</td>
</tr>
<tr>
<td>2</td>
<td>CAP Ag Mitigation Agreement</td>
<td>CAWCD and CAP Agricultural Districts</td>
<td>Term Sheet drafted, negotiations largely complete</td>
</tr>
<tr>
<td>3</td>
<td>CAP NIA Mitigation Agreement</td>
<td>CAWCD and CAP NIA water users</td>
<td>Agreement in draft form, under negotiation</td>
</tr>
<tr>
<td>4</td>
<td>CAWCD – SRP Exchange Agreement</td>
<td>CAWCD and Salt River Project</td>
<td>Final Agreement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fully executed by parties</td>
</tr>
<tr>
<td>5</td>
<td>CRIT System Conservation Agreement</td>
<td>ADWR, United States, CRIT and CAWCD</td>
<td>Agreement in draft form</td>
</tr>
<tr>
<td>6</td>
<td>GRIC Pre-Firming Agreement</td>
<td>AWBA and GRIC</td>
<td>Agreement in draft form</td>
</tr>
<tr>
<td>7</td>
<td>GRIC Firming Agreement</td>
<td>United States and GRIC</td>
<td>Draft Concept</td>
</tr>
</tbody>
</table>
| 8  | USF to GSF Agreements (2 forms of agreement) | 1. Pinal CAP AG districts, cities and others  
2. AWBA and cities | 1. Close to final form  
2. AWBA credit exchange Approved by AWBA |
| 9  | AWBA Recovery Agreements               | AWBA and recovery partners                                               | Draft Concept                                             |
| 10 | GRIC/CAGRD Water Supply Acquisition Agreements | CAWCD, GRIC and GRWS (Gila River Water Storage LLC)                  | Final Agreement                                           |
| 11 |                                        |                                                                         | Fully executed by parties                                |
|    |                                        |                                                                         | U.S. approval pending                                     |

* means agreement complete
Congressional Testimony

- Commissioner Burman and state governor’s representatives from Arizona, Nevada and Wyoming testified before the Senate Committee on Energy & Natural Resources Subcommittee on Water and Power, chaired by Arizona Senator Martha McSally, March 27.
- Commissioner Burman and governor’s representatives from all seven Colorado River Basin States testified before the Water, Oceans and Wildlife Subcommittee of the House Natural Resources Committee March 28.
- All Basin States Senators co-sponsored bill with Senator McSally
- 36 House members co-sponsored bill with Rep. Grijalva
- President Trump signed the bill April 16, 2019
To direct the Secretary of the Interior to execute and carry out agreements concerning Colorado River Drought Contingency Management and Operations, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, SECTION 1. SHORT TITLE. This Act may be cited as the “Colorado River Drought Contingency Plan Authorization Act”. SEC. 2. COLORADO RIVER BASIN DROUGHT CONTINGENCY PLANS. (a) IN GENERAL.—Notwithstanding any other provision of law expressly addressing the operation of the applicable Colorado River System reservoirs, immediately upon execution of the March 19, 2019, versions of the Agreement Concerning Colorado River Drought Contingency Management and Operations and the agreements attached thereto as Attachments A1, A2, and B, by all of the non-Federal parties thereto, the Secretary of the Interior shall, without delay, execute such agreements, and is directed and authorized to carry out the provisions of such agreements and operate applicable Colorado River System reservoirs accordingly. (b) EFFECT.—Nothing in this section shall— (1) be construed or interpreted as precedent for the litigation of, or as altering, affecting, or being deemed as a congressional determination regarding, the water rights of the United States, any Indian Tribe, band, or community, any State or political subdivision or district of a State, or any person; or (2) exempt the implementation of such agreements and the operation of applicable Colorado River System reservoirs from any requirements of applicable Federal environmental laws.
Congressional Support
House Resolution 2030
Sponsor: Representative Grijalva

Co-Sponsors:
Biggs, Andy [R-AZ5]
Bishop, Rob [R-UT1]
Calvert, Ken [R-CA42]
Cheney, Liz [R-WY0]
Curtis, John [R-UT3]
DeGette, Diana [D-CO1]
Gallego, Ruben [D-AZ7]
Gosar, Paul [R-AZ4]
Haaland, Debra [D-NM1]
Horsford, Steven [D-NV4]
Huffman, Jared [D-CA2]
Kirkpatrick, Ann [D-AZ2]
Lamborn, Doug [R-CO5]
Lesko, Debbie [R-AZ8]
Levin, Mike [D-CA49]
Lowenthal, Alan [D-CA47]
Luján, Ben [D-NM3]
McAdams, Ben [D-UT4]

Napolitano, Grace [D-CA32]
O’Halleran, Tom [D-AZ1]
Perlmutter, Ed [D-CO7]
Roybal-Allard, Lucille [D-CA40]
Schiff, Adam [D-CA28]
Schweikert, David [R-AZ6]
Stanton, Greg [D-AZ9]
Stewart, Chris [R-UT2]
Titus, Dina [D-NV1]
Amodei, Mark [R-NV2]
Buck, Ken [R-CO4]
Lee, Susie [D-NV3]
Tipton, Scott [R-CO3]
Torres Small, Xochitl [D-NM2]
Cisneros, Gilbert [D-CA39]
Crow, Jason [D-CO6]
Neguse, Joe [D-CO2]
Waters, Maxine [D-CA43]
Mr. GRIJALVA. The drought contingency plan agreements will allow us to immediately respond to the historic drought conditions in the Colorado River Basin. These conditions pose a threat to the water supply of 40 million people, and 5.5 million acres of farmland. ... This immediate action is essential to preserving the water supply for millions of people in the American Southwest.
Congressional Support
Senate Bill 1057
Sponsor: Senator McSally

Co-Sponsors:
Barrasso, John [R-WY]
Bennet, Michael [D-CO]
Cortez Masto, Catherine [D-NV]
Enzi, Michael [R-WY]
Feinstein, Dianne [D-CA]
Gardner, Cory [R-CO]
Harris, Kamala [D-CA]
Heinrich, Martin [D-NM]
Lee, Mike [R-UT]
Romney, Mitt [R-UT]
Rosen, Jacky [D-NV]
Sinema, Kyrsten [D-AZ]
Udall, Tom [D-NM]
Ms. MCSALLY. ...The Colorado River is the lifeblood of the Southwestern United States. ... This long and intense drought has left the combined water stored behind Lake Powell and Lake Mead near critically low levels, putting the water supply for some of the Nation’s largest cities in danger. The Colorado River Drought Contingency Plan—otherwise known as the DCP—was negotiated among the seven Colorado River Basin States to respond to this prolonged drought. ... These States put in a lot of hard work and sacrifice for the good of all who rely on the river. ...This is about the livelihood and the safety of 40 million Americans. The Colorado River DCP Authorization Act puts sound water policy over partisan politics.
Colorado River Basin 24-Month Study

- If conditions remain the same, we are not expected to be in Tier 1 or Tier 2 shortage for 2020.
- There will be a “Tier 0” shortage if the elevation of Lake Mead is between 1,090 and 1,075 feet.
  - Tier 0 shortage results in 192,000 acre-foot reduction
- An April adjustment from an 8.23 maf release from Lake Powell has been increased to a 9.0 maf release.
- The August 2019 24-Month Study projections will determine the operating tiers for Lake Powell and Lake Mead in 2020.
Upper Colorado River Basin Snotel Tracking
Aggregate of 104 Snotel Sites in the Upper Colorado River Basin

On 04/12/2019 103 of 103 sites

As of this date the NRCS is reporting the basin-wide SWE is 133 percent of the basin-wide median SWE (inches).

Month


On the graph:
- Comparison Year Basin-wide SWE WY2018
- Current Year Basin-wide SWE WY2019
- 30 Year Basin-wide Median SWE

Data Provided by the Natural Resource Conservation Service (NRCS)
Colorado River April 24-Month Study

Lake Mead End of Month Elevations
Projections from the April 2019 24-Month Study Inflow Scenarios

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

- Historical Elevations
- April 2019 Probable Maximum Inflow with a Lake Powell release of 9.00 maf in WY 2019 and 12.84 maf in WY 2020
- April 2019 Most Probable Inflow with a Lake Powell release of 9.00 maf in WY 2019 and WY 2020
- April 2019 Probable Minimum Inflow with a Lake Powell release of 9.00 maf in WY 2019 and 8.72 maf in WY 2020

Most Probable End of CY 2020
Projection: 1,079.6 feet (38% full)
Min/Max Range: 1,068 to 1,122 feet
Imperial Irrigation District Action

• The Imperial Irrigation District in California filed a Notice of Intent to File California Environmental Quality Act (CEQA) Petition against the Metropolitan Water District on April 15

• As part of its case, IID challenges the approval of the LBDCP by the Board of Directors of Metropolitan Water District

• IID’s suit would direct Metropolitan to desist from implementing the LBDCP
Thank You.