Welcome

The meeting will begin shortly, in the meantime please,

• Keep your phone muted during the meeting.

• If you have a question/comment during the meeting type it in the chat box and it will be read and addressed at the end of each presentation.

• During the Call to Public people will have the option to speak to the Council.

• If you experience any technical difficulties, please contact ADWR Help Desk at 602-771-8444 or tickets@azwater.gov
Meeting Agenda

1. Call to Order – Welcome & Introductions – Chair
2. Webinar Logistics – Makenna Welsch, ADWR
3. AMWUA Water Loss Control Training and Technical Assistance Program – Patrick Adams, AMWUA
   Patrick will present results of the WMAP funded AMWUA Water Loss Control Training Program.
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Webinar Logistics

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AMWUA Water Loss Control Training & Technical Assistance Program

*Phoenix AMA Groundwater Users Advisory Council*
Water Loss Control Program Background & History

- Program designed to provide Training and Technical assistance on water loss control best practices
- Program started in January 2020
- Funding provided by ADWR, and Technical Assistance by the SW EFC
What is Water Loss Control?

Efforts to manage and, where feasible, reduce Non-Revenue Water

Real Losses
Including physical leakage

Apparent Losses
Including accounting errors and unbilled authorized consumption
Program Goals & Structure

- Developing internal Water Loss Control teams
- Completing and Validating utility Water Audits using national, industry best practices
- Implementing more advanced tracking and estimation methods of utility Non-Revenue Water
- Identifying opportunities for intervention specific to each utility

Diagram:
- Top-Down Water Loss Analysis (Stage 1)
- Bottom-Up Water Loss Analysis (Stage 2)
- SW EFC Technical Assistance & Recommendations
- Economic Analysis (Stage 3)
- Actions Taken by Utility to Control Real & Apparent Losses
Program Training Topics

16 Trainings in total, including:

- AWWA’s M36 Water Audit Methodology
- Forming a cross-functional water loss control team
- Setting Water Loss Control goals
- Controlling Apparent Losses
- Controlling Real Losses & Leakage Component Analysis
- Economics of Water Loss
- Addressing Authorized Unbilled Usage
- Report Out Sessions, Case Studies and Optional Content
## Program Technical Assistance & Materials

<table>
<thead>
<tr>
<th>Training, Technical Assistance, &amp; Materials</th>
<th>Quantity or Total Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Events</td>
<td>16 total Trainings</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td>2,187 Hours</td>
</tr>
<tr>
<td>Emails, phone calls</td>
<td>470 Total</td>
</tr>
<tr>
<td>Zoom or In-person meetings</td>
<td>116 Meetings</td>
</tr>
<tr>
<td>Data Analysis and Report Preparation</td>
<td>1,862 Hours</td>
</tr>
<tr>
<td>Reports</td>
<td>6 - 7 per system, 4 for AMWUA (62 total reports)</td>
</tr>
<tr>
<td>Applied Activities</td>
<td>8</td>
</tr>
<tr>
<td>Resources &amp; Materials Provided</td>
<td>54</td>
</tr>
</tbody>
</table>
## Program Outcomes for the Participants

<table>
<thead>
<tr>
<th>Positive outcomes across all utilities:</th>
<th>Numerous individual successes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong engagement throughout the Program</td>
<td>Identified data handling errors and double counting issues</td>
</tr>
<tr>
<td>Completion of Level 1 Validated Water Audits</td>
<td>Improved procedures for data collection</td>
</tr>
<tr>
<td>Increased understanding of non-revenue water and BMPs for managing losses</td>
<td>Updated meter testing and calibration programs</td>
</tr>
<tr>
<td>Cross-validating State regulatory reporting</td>
<td>Found opportunities to modify distribution system/well flushing operations to save water</td>
</tr>
<tr>
<td>AMWUA average Real Losses at national benchmark median, many far below</td>
<td></td>
</tr>
</tbody>
</table>

Positive outcomes across all utilities:

- Strong engagement throughout the Program
- Completion of Level 1 Validated Water Audits
- Increased understanding of non-revenue water and BMPs for managing losses
- Cross-validating State regulatory reporting
- AMWUA average Real Losses at national benchmark median, many far below

Numerous individual successes:

- Identified data handling errors and double counting issues
- Improved procedures for data collection
- Updated meter testing and calibration programs
- Found opportunities to modify distribution system/well flushing operations to save water
Program Outcomes for the Participants

Opportunities for Continuous Improvement:
- Further refinement of Apparent Loss estimates
- Close water audit data gaps
- Focus internal utility engagement & communication

Each successive water audit and yearly assessment provides an opportunity
Water Loss Program Lessons Learned

Program was effective and well-received

- Participant survey responses show increased understanding and plans to tackle water loss

Program Challenges included:

- Switch to the virtual environment
- During Stages 2 and 3 staff capacity and turnover slowed internal progress
SW EFC Recommendations to the AMWUA Cities

Utility Specific Recommendations
- Provided throughout trainings and included in Reports

Program Management & Support
- Establish a water loss team, define goals, and communication strategies
- Encourage water loss control as a utility priority

Data and Process Development for Future Audits
- Organize and document water loss data & procedures to preserve institutional knowledge
- Collect and analyze main and service line break data
- Develop system-specific data inputs for water audit
SW EFC Recommendations to AMWUA

Host & Sponsor Additional Water Loss Trainings

Facilitate Water Loss Info Sharing Between Members

- Assist in the sharing of best practices, policies, and procedures
- Networking for water loss staff within and between utilities
- Encourage development of internal water loss control goals & advancement

Continue to Advocate Support of Water Loss Control Efforts
SW EFC Recommendations to ADWR

Continue to expand and provide training opportunities statewide

Evaluate regulatory requirements considering current industry standards for future Management Periods after 2025

- Consider other “real loss” metrics adopted by AWWA that account for variations in utility size
- Encourage focus on conducting water audits

Look for interagency opportunities to coordinate on water loss control standards, policies, and training
Next Steps & Program Conclusion Activities

**AMWUA members have been provided:**
- Individual recommendations, audit data, training recordings, and all Program materials

**AMWUA coordinating with SW EFC on Final Report**
- Will be submitted to ADWR after review

**AMWUA members to continue to develop internal water loss control programs**
- SW EFC remains a resource into the future
Thank you!
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COLORADO RIVER BASIN STATUS UPDATE

Presented to:
Groundwater Users Advisory Council
Phoenix Active Management Area
September 27, 2021
COLORADO RIVER SYSTEM
RESERVOIR STATUS

TOTAL SYSTEM CONTENTS – 38% or 23.188 MAF
(Total system contents last year 48% or 29.198 MAF)

September 2021
Updated as of September 19, 2021

Lake Powell
30% 7.377 MAF
3,547.06 ft
3,659 ft, WY 2021
Equalization Level

Lake Mead
35% 9.012 MAF
1,067.63 ft
1,075 ft, First Tier Shortage

Data Source: United States Bureau of Reclamation
(Total system contents last year 48% or 29.198 MAF)
Snow Water Equivalent

Conditions as of September 22, 2021

Peak SWE at 89% of Median on March 30
Lake Powell Unregulated Inflow

**Water Year 2022 Forecast**

- Sept Min Prob: 4.74 maf (44%)(49%)
- Sept Most Prob: 8.20 maf (76%)(85%)
- Sept Max Prob: 16.00 maf (148%)(167%)

**April-July 2022 Forecast**

- Sept Min Prob: 2.77 maf (39%)(43%)
- Sept Most Prob: 5.69 maf (79%)(89%)
- Sept Max Prob: 11.57 maf (162%)(181%)

**2021 Observed and Projected**

- Observed April-July: 1.85 maf (26%)(29%)
- Projected Water Year: 3.56 maf (33%)(37%)

*80-year Temperature and precipitation averages and statistics are calculated every decade by the National Oceanic and Atmospheric Administration, the latest statistics were released on May 4th, 2021.*
Lake Mead End of Month Elevations

Projections from the September 2021 24-Month Study Inflow Scenarios

**Surplus Conditions 1,145 ft and above**

**Normal Condition**
1,145 ft to 1,075 ft

**Level 1 Shortage Condition**
1,075 ft to 1,050 ft

**Level 2 Shortage Condition**
1,050 ft to 1,025 ft

**Level 3 Shortage Condition**
1,025 ft and below

**Most Probable End of CY 2021 Projection:**
1,066.09 feet (34% full)
Min/Max Range: 1,065.82 to 1,066.76 feet

**Most Probable End of CY 2022 Projection:**
1,050.68 feet (30% full)
Min/Max Range: 1,047.90 to 1,061.19 feet

*The Drought Response Operations Agreement (DROA) is available online at: https://www.usbr.gov/dcp/finaldocs.html.*

Source: Bureau of Reclamation
## Lower Basin Side Inflows – WY/CY 2021<sup>1,2</sup>

Intervening Flow from Glen Canyon to Hoover Dam

<table>
<thead>
<tr>
<th>Month in WY/CY 2021</th>
<th>5-Year Average Intervening Flow (kaf)</th>
<th>Observed Intervening Flow (kaf)</th>
<th>Observed Intervening Flow (% of Average)</th>
<th>Difference From 5-Year Average (kaf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2020</td>
<td>58</td>
<td>35</td>
<td>60%</td>
<td>-23</td>
</tr>
<tr>
<td>November 2020</td>
<td>71</td>
<td>56</td>
<td>79%</td>
<td>-15</td>
</tr>
<tr>
<td>December 2020</td>
<td>67</td>
<td>59</td>
<td>88%</td>
<td>-8</td>
</tr>
<tr>
<td>January 2021</td>
<td>95</td>
<td>72</td>
<td>75%</td>
<td>-23</td>
</tr>
<tr>
<td>February 2021</td>
<td>97</td>
<td>55</td>
<td>57%</td>
<td>-42</td>
</tr>
<tr>
<td>March 2021</td>
<td>111</td>
<td>33</td>
<td>30%</td>
<td>-78</td>
</tr>
<tr>
<td>April 2021</td>
<td>81</td>
<td>36</td>
<td>45%</td>
<td>-45</td>
</tr>
<tr>
<td>May 2021</td>
<td>50</td>
<td>28</td>
<td>55%</td>
<td>-23</td>
</tr>
<tr>
<td>June 2021</td>
<td>29</td>
<td>-14</td>
<td>-48%</td>
<td>-43</td>
</tr>
<tr>
<td>July 2021</td>
<td>64</td>
<td>93</td>
<td>146%</td>
<td>29</td>
</tr>
<tr>
<td>August 2021</td>
<td>81</td>
<td>89</td>
<td>109%</td>
<td>7</td>
</tr>
<tr>
<td>September 2021</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>October 2021</td>
<td>58</td>
<td></td>
<td></td>
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<tr>
<td>November 2021</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 2021</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>WY 2021 Totals</strong></td>
<td><strong>876</strong></td>
<td><strong>612</strong></td>
<td><strong>70%</strong></td>
<td><strong>-264</strong></td>
</tr>
<tr>
<td><strong>CY 2021 Totals</strong></td>
<td><strong>876</strong></td>
<td><strong>659</strong></td>
<td><strong>75%</strong></td>
<td><strong>-217</strong></td>
</tr>
</tbody>
</table>

<sup>1</sup> Values were computed with the LC’s gain-loss model for the most recent 24-month study.

<sup>2</sup> Percents of average are based on the 5-year mean from 2016-2020.

Source: Bureau of Reclamation
## Upper Basin – Lake Powell

### Percent of Traces with Event or System Condition

Results from August 2021 CRSS without Upper Basin Drought Response Operations (values in percent)

<table>
<thead>
<tr>
<th>Event or System Condition</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equalization Tier (Powell ≥ Equalization [EQ] Elevation)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equalization – annual release &gt; 8.23 maf</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Equalization – annual release = 8.23 maf</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td><strong>Upper Elevation Balancing Tier (Powell &lt; EQ Elevation and ≥ 3,575 ft)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Elevation Balancing – annual release &gt; 8.23 maf</td>
<td>0</td>
<td>16</td>
<td>25</td>
<td>28</td>
<td>31</td>
</tr>
<tr>
<td>Upper Elevation Balancing – annual release = 8.23 maf</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Upper Elevation Balancing – annual release &lt; 8.23 maf</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Mid-Elevation Release Tier (Powell &lt; 3,575 and ≥ 3,525 ft)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid-Elevation Release – annual release = 8.23 maf</td>
<td>100</td>
<td>38</td>
<td>44</td>
<td>34</td>
<td>28</td>
</tr>
<tr>
<td>Mid-Elevation Release – annual release = 7.48 maf</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Lower Elevation Balancing Tier (Powell &lt; 3,525 ft)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below Minimum Power Pool (Powell &lt; 3,490 ft)</td>
<td>0</td>
<td>47</td>
<td>31</td>
<td>31</td>
<td>34</td>
</tr>
<tr>
<td>Below Minimum Power Pool (Powell &lt; 3,490 ft) in any month</td>
<td>3</td>
<td>34</td>
<td>25</td>
<td>28</td>
<td>34</td>
</tr>
</tbody>
</table>

### Notes:

1. Modeled operations include the 2007 Interim Guidelines, Lower Basin Drought Contingency Plan, and Minute 323, including the Binational Water Scarcity Contingency Plan.
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## Lower Basin – Lake Mead
### Percent of Traces with Event or System Condition
**Results from August 2021 CRSS without Upper Basin Drought Response Operations (values in percent)**

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<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus Condition – any amount (Mead ≥ 1,145 ft)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Surplus – Flood Control</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Normal or ICS Surplus Condition (Mead &lt; 1,145 and &gt; 1,075 ft)</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Recovery of DCP ICS / Mexico’s Water Savings (Mead &gt;/≤ 1,110 ft)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DCP Contribution / Mexico’s Water Savings (Mead ≤ 1,090 and &gt; 1,075 ft)</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Shortage Condition – any amount (Mead ≤ 1,075 ft)</td>
<td>100</td>
<td>97</td>
<td>97</td>
<td>100</td>
<td>91</td>
</tr>
<tr>
<td><strong>Shortage / Reduction – 1st level (Mead ≤ 1,075 and ≥ 1,050)</strong></td>
<td>100</td>
<td>75</td>
<td>28</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>DCP Contribution / Mexico’s Water Savings (Mead ≤ 1,075 and &gt; 1,050 ft)</td>
<td>100</td>
<td>75</td>
<td>28</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td><strong>Shortage / Reduction – 2nd level (Mead &lt; 1,050 and ≥ 1,025)</strong></td>
<td>0</td>
<td>22</td>
<td>66</td>
<td>38</td>
<td>34</td>
</tr>
<tr>
<td>DCP Contribution / Mexico’s Water Savings (Mead ≤ 1,050 and &gt; 1,045 ft)</td>
<td>0</td>
<td>16</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>DCP Contribution / Mexico’s Water Savings (Mead ≤ 1,045 and &gt; 1,040 ft)</td>
<td>0</td>
<td>6</td>
<td>13</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>DCP Contribution / Mexico’s Water Savings (Mead ≤ 1,040 and &gt; 1,035 ft)</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>DCP Contribution / Mexico’s Water Savings (Mead ≤ 1,035 and &gt; 1,030 ft)</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>DCP Contribution / Mexico’s Water Savings (Mead ≤ 1,030 and ≥/&gt; 1,025 ft)</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>Shortage / Reduction – 3rd level (Mead &lt; 1,025)</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>DCP Contribution / Mexico’s Water Savings (Mead &lt;/≤ 1,025 ft)</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>41</td>
<td>41</td>
</tr>
</tbody>
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Questions?

Craig McGinnis
cmcginnis@azwater.gov

Additional Resources

- Arizona Reconsultation Committee: https://new.azwater.gov/arc
- Colorado Basin River Forecast Center: https://www.cbrfc.noaa.gov/
Meeting Agenda

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2022 Preliminary AWBA Plan of Operation

Groundwater Users Advisory Council
Phoenix AMA

Presented By
Virginia O’Connell
September 27, 2021
2022 Preliminary Plan of Operation

- Tier 1 Shortage Condition
- No Excess CAP water available to AWBA
- Goals achieved through other means
  - Long-term Storage Credit purchases
  - Intentionally Created Surplus Firming Credits
- AWBA Tribal firming requirement
2022 Water and Facility Rates

<table>
<thead>
<tr>
<th>Recharge Rates</th>
<th>Cost / Acre-foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAWCD delivery rate for AWBA</td>
<td>$242.00</td>
</tr>
<tr>
<td>Groundwater Savings Facility operator cost share rate¹</td>
<td></td>
</tr>
<tr>
<td>Phoenix and Pinal AMAs</td>
<td>$34.00</td>
</tr>
<tr>
<td>Tucson AMA</td>
<td>$16.00</td>
</tr>
<tr>
<td>Underground Storage Facility rate paid by AWBA</td>
<td></td>
</tr>
<tr>
<td>CAWCD – Phoenix Facilities</td>
<td>$13.00</td>
</tr>
<tr>
<td>CAWCD – Tucson Facilities</td>
<td>$15.00</td>
</tr>
<tr>
<td>Tucson Water - Clearwater Facilities</td>
<td>$19.78</td>
</tr>
</tbody>
</table>

¹ This rate is paid directly to CAP by the GSF operators and is not available as revenue to the AWBA
## Funding for 2022 Plan of Operation

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Estimated Funds Available</th>
<th>Estimated Funds Utilized</th>
<th>Estimated Credits (AF)</th>
<th>Water Storage</th>
<th>Developed Credits</th>
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<tbody>
<tr>
<td></td>
<td>AWBA</td>
<td>CAWCD</td>
<td>AWBA</td>
<td>CAWCD</td>
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<tr>
<td><strong>Withdrawal Fees</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phoenix AMA</td>
<td>$866,600</td>
<td>-</td>
<td>$866,400</td>
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<tr>
<td>Tucson AMA</td>
<td>$396,000</td>
<td>-</td>
<td>$396,000</td>
<td>-</td>
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<tr>
<td><strong>Water Storage Tax</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phoenix AMA</td>
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<td>$4,000,000</td>
<td>$0</td>
<td>$4,000,000</td>
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<tr>
<td>Pinal AMA</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>0</td>
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<td>Tucson AMA</td>
<td>$0</td>
<td>$3,000,000</td>
<td>$0</td>
<td>$3,000,000</td>
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<tr>
<td><strong>Total Funds Available</strong></td>
<td>$8,262,600</td>
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<tr>
<td><strong>Total Funds Expended</strong></td>
<td>$8,262,400</td>
<td></td>
<td></td>
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<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td></td>
<td></td>
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<td>0</td>
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</table>
## Estimated Credits and Firming Volumes thru 2022

<table>
<thead>
<tr>
<th>Objective and Location</th>
<th>Credits Available 1</th>
<th>Estimated Credits Used</th>
<th>Estimated Credits Remaining</th>
<th>Estimated Firming Volumes Needed 2</th>
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<tbody>
<tr>
<td>CAP M&amp;I Firming (4-cent tax)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Phoenix AMA</td>
<td>1,572,092</td>
<td>0</td>
<td>1,572,092</td>
<td>1,885,000 – 2,985,000</td>
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<tr>
<td>Pinal AMA</td>
<td>233,740</td>
<td>0</td>
<td>233,740</td>
<td>293,000 – 463,000</td>
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<tr>
<td>Tucson AMA</td>
<td>509,278</td>
<td>0</td>
<td>509,278</td>
<td>1,040,000 – 1,647,000</td>
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<tr>
<td>On-River M&amp;I Firming (gen. fund)</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td>403,830</td>
<td>0</td>
<td>403,830</td>
<td>221,000 – 359,000</td>
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<tr>
<td>Tribal Settlement Obligations: 3</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>GRIC - 15,000 AFY</td>
<td>176,151</td>
<td>8,112</td>
<td>168,039</td>
<td>456,000 – 577,000</td>
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<tr>
<td>LTSCs</td>
<td>105,390</td>
<td>0</td>
<td>105,390</td>
<td></td>
</tr>
<tr>
<td>Firming Credits</td>
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<td>8,112</td>
<td>35,888</td>
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<tr>
<td>ICS Firming Credits</td>
<td>26,761</td>
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<td>26,761</td>
<td></td>
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<tr>
<td>WMAT - 3,750 AFY</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>112,000 – 142,000</td>
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<tr>
<td>Hualapai - 557.5 AFY</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>17,000 – 21,000</td>
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<td>Future Settlements- 4416.5 AFY</td>
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<td>0</td>
<td>0</td>
<td>261,000 – 330,000</td>
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<td>Federal Assistance (SAWRSRA)</td>
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<td>34,102</td>
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<tr>
<td>Groundwater Mgmt 4 (W/Fees)</td>
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<td></td>
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<td>251,411</td>
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<tr>
<td>Pinal AMA</td>
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<td>417,453</td>
<td>N/A</td>
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<tr>
<td>Tucson AMA</td>
<td>112,769</td>
<td>0</td>
<td>112,769</td>
<td>N/A</td>
</tr>
</tbody>
</table>

1 Actuals through September 2021; October through December estimated.
2 Based on modeling results identified in the AWBA 2020 Annual Report.
3 WMAT enforceability date is April 30 2023; Hualapai firming subject to congressional approval.
4 Withdrawal Fee LTSCs may be used for CAP M&I firming and/or Tribal settlement obligations if needed.
Questions?

September 27, 2021
waterbank.az.gov
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GOVERNOR’S WATER AUGMENTATION, INNOVATION AND CONSERVATION COUNCIL

Link to Governor’s Water Council Webpage: https://new.azwater.gov/gwaicc
The Council last met on September 16, 2021 (Meeting Recording)

I. Welcome and Introductions

II. Update on Colorado River Shortage – Council Chair, ADWR Director Tom Buschatzke

III. Committee Updates
   a. Non-AMA Groundwater Committee
   b. Desalination Committee
   c. Long-Term Water Augmentation Committee
   d. Post-2025 AMAs Committee

IV. Overview of AMA Agriculture Best Management Practices (BMPs) Program – Natalie Mast, AMA
    Director Management Plans

V. Closing Remarks

VI. Next Meeting
    December 9, 2021, 10:00 a.m. - 12:00 p.m.

VII. Adjournment
Non-AMA Groundwater Committee:
* Meeting scheduled for October 14th from 10:00am-noon
  - Login information and agenda posted (Link)

Desalination Committee:
* Provided an overview of the work of the committee to date
  - Summarized the work of the Legal & Regulatory Subcommittee, as well as the Brackish Groundwater and Arizona Law presentation, given by ADWR Deputy Counsel, Jennifer Heim. (Link)

* Two recommendations brought to the Council:
  1) Recommended brackish groundwater continue to be regulated as it is, as groundwater.
  2) Recommended that unless the Council identifies additional tasks to pursue, the committee be put on standby until recalled for additional work.
Committee Updates (cont.)

Long-Term Water Augmentation Committee:
* Summarized the Enhanced Aquifer Recharge presentation, given by ADWR Senior Research Hydrologist, Keith Nelson.
* Plan to continue discussions on potential for recharging stormwater/flood runoff in subsequent meetings.

Storage Sites Subcommittee
- Submitted Potential Water Storage Sites on State Trust Land Report, required by HB 2249. ([Link](#))
- Staff is working to finalize and incorporate comments on the Draft Guide to Underground Water Storage Site Selection ([Link](#))

Post-2025 AMAs Committee:
* Summarized the presentations on the 3 identified issues; Groundwater in the Assured Water Supply Program (June 22); Unreplenished Groundwater Demand (Aug 10); Hydrologic Disconnect (Sep 9)
* Meeting scheduled for October 5th from 1:00-3:00pm
  - Login information posted ([Link](#))
  - Topic: Prescott AMA Exempt Well Group Concepts
* Meeting scheduled for October 27th from 1:00-3:00pm
  - Topic: Development of Solutions
Thank you!

Jenna Norris
Council Coordinator
jnorris@azwater.gov
Office Phone: 602-771-5262

John Riggins
Statewide Planning Manager
jrriggins@azwater.gov
Office Phone: 602-771-4782

ADWR Website: https://new.azwater.gov/
ADWR Phone: 602-771-8500

Link to ADWR Contacts: https://new.azwater.gov/adwr/contact-us
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Management Plans Update

Phoenix AMA GUAC Meeting
September 27, 2021

Natalie Mast
AMA Director – Management Plans
A.R.S. § 45-563 (A)

“The director shall develop a management plan for each initial active management area for each of five management periods... and shall adopt the plans only after public hearings... The plans shall include a continuing mandatory conservation program... designed to achieve reductions in withdrawals of groundwater.”
Estimated 5MP Timeline

[new.azwater.gov/5MP](new.azwater.gov/5MP)

### 2020: Development
- Work Group, Subgroups, & Stakeholder Outreach
- Data Analysis
- Develop **Concepts** to Increase Conservation
  - Update Existing Programs
  - Design New Programs

### 2021: Drafting
- Build out **Concepts** developed in previous phase
  - Regulatory Language
  - Feedback from GUACs/AMAs re: Customization & Implementation
- Draft Narrative & Background
- Develop Data Tools

### 2022: Adoption
- Publication of initial drafts
- Presentation to GUACs for recommendations
- Promulgation processes
  - Hearing & Public Comment
  - Findings & Adoption
  - Noticing of Conservation Requirements
5MP Concepts Webpage
https://new.azwater.gov/5MP/plans-concepts

5TH MANAGEMENT PLANS CONCEPTS

As ADWR and the 5th Management Plans Work Group proceed in the development of the 5th Management Plans, concepts and stakeholder comments related to 5MP conservation programs will be made available below. Meeting links are provided, to provide additional context for the concept. Any questions or comments on these concepts can be sent to managementplans@azwater.gov.

- AGRICULTURAL SUBGROUP
- INDUSTRIAL SUBGROUP
- TURF BREAKOUT GROUP
- MUNICIPAL SUBGROUP
A.R.S. § 45-421 Administrative duties of the groundwater users advisory councils

“The groundwater users advisory council shall:

1. Advise the area director for the active management area, make recommendations on groundwater management programs and policies for the active management area and comment to the area director and to the director on draft management plans for the active management area before they are promulgated by the director.

2. Keep the minutes of its meetings and all records, reports and other information relative to its work and programs in permanent form indexed and systematically filed.

3. Elect from its members a chairman and vice-chairman for terms of two years expiring on the third Monday of January of each even numbered year.

4. Designate the person or persons who shall execute all documents and instruments on behalf of the council.

5. Manifest and record its actions by motion, resolution or other appropriate means.

6. Make a complete record of its proceedings which shall be open to public inspection during regular business hours in the branch office of the department in the active management area.

7. Provide comment to the Arizona water banking authority with regard to draft plans for additional storage facilities and draft plans of operation in accordance with sections 45-2453 and 45-2456.”
ADWR plans to seek recommendations from the GUAC on the draft Phoenix AMA Fifth Management Plan in an upcoming meeting of the Council.

The draft will be published in January and will be sent via email to each member. We can provide a hard copy upon request.

We ask that the Council be prepared to discuss and make recommendations on the plan at the February meeting.

- Goal of completing 5MP adoptions for all five AMAs by the end of 2022
Promulgation Order

Hearing

Summary of Findings Published
- Potential for rehearing or review

Final Order of Adoption

Management Plan becomes Effective

Notices of Conservation Requirements are mailed

Conservation Requirements become Effective

- Comment Period
- 30-60 days
- 30 days
- 2 weeks in newspapers
- within 30 days
- > 2 years
Questions?

New.azwater.gov/5MP

Concepts page:
https://new.azwater.gov/5MP/plans-concepts

Full Text of Management Plans:
new.azwater.gov/ama/management-plans

Natalie Mast
nlmast@azwater.gov

Management Plans Work Group:
For questions about meetings or to submit comments:
managementplans@azwater.gov
Agricultural Best Management Practices Advisory Committee Recommendations:

- Updates to the List of Approved BMPs
- Update to Points Targets

### Agricultural Best Management Practices Program

<table>
<thead>
<tr>
<th>BMP Category</th>
<th>New BMPs</th>
<th>Updated BMPs</th>
<th>Minimum Points Required</th>
<th>Maximum Points Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section I: 1. Water Conveyance System Improvements</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Section I: 2. Farm Irrigation Systems</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Section I: 3. Irrigation Water Management Practices</td>
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<td>6</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Section I: 4. Agronomic Management Practices</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Section II: Procedure for New BMP</td>
<td>1</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Total</td>
<td>9</td>
<td>13</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>
### Agricultural Integrated Farm Program

- Allotment based program
- Allows multiple IGFRs under the same owner/operator to combine reporting/allotments
- Will include a "cut to the aquifer" percentage reduction of the total combined allotment.
- Draft legal language available:
  - Draft 5MP Agricultural Regulatory Language

<table>
<thead>
<tr>
<th>Base Program</th>
<th>Proposed Integrated Farm Program</th>
<th>BMP Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Allocation based, default Program</td>
<td>• Removes Administrative Burden of Base Program</td>
<td>• Most Efficient, Highest Conservation Farms</td>
</tr>
</tbody>
</table>
## Municipal Non-Per Capita Program

### Service Connections

<table>
<thead>
<tr>
<th>Tier</th>
<th>Required Number of BMP Points</th>
</tr>
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<tbody>
<tr>
<td>0 – 5,000</td>
<td>3</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5,001 – 30,000</td>
<td>8</td>
</tr>
<tr>
<td>30,001 +</td>
<td>15</td>
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</table>

### BMP Tiers

#### Fourth Management Plans

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<th>Tier</th>
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<tr>
<td>Tier 1</td>
<td>43</td>
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<tr>
<td>Tier 2</td>
<td>26</td>
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<tr>
<td>Tier 3</td>
<td>10</td>
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#### Fifth Management Plans Proposal

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<th>Required Number of BMP Points</th>
<th>Number of categories that BMP points must be earned from</th>
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</thead>
<tbody>
<tr>
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<td>15</td>
<td>2 or more categories</td>
</tr>
<tr>
<td>Tier 2</td>
<td>28</td>
<td>3 or more categories</td>
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<tr>
<td>Tier 3</td>
<td>26</td>
<td>4 or more categories</td>
</tr>
<tr>
<td>Tier 4</td>
<td>10</td>
<td>5 or more categories</td>
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</table>

### Service Connections

<table>
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<tr>
<th>Service Connections</th>
<th>Tier</th>
<th>Required Number of BMP Points</th>
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</thead>
<tbody>
<tr>
<td>0 – 5,000</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5,001 – 30,000</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>30,001 +</td>
<td>3</td>
<td>15</td>
</tr>
</tbody>
</table>
Municipal GPCD Program

Draft legal language available:
* Draft 5MP Municipal Regulatory Language
Industrial – Golf Course Conservation Program

Goals

* Reduce Withdrawals of Groundwater
* Equitable
* Incorporate Realistic Practices
* Transparency/Simplicity

Final Golf Conservation Structure

* 3 Components:
  * Allotment Method
  * Allotment Additions
  * Effluent Adjustment
## Industrial – Non-Golf Turf Conservation Program

<table>
<thead>
<tr>
<th>Category</th>
<th>Application Rate (AF/Acre)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Prescott</td>
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<tr>
<td>Turf</td>
<td>4.17</td>
</tr>
<tr>
<td>Low Water Use Landscaped Area</td>
<td>0.74</td>
</tr>
<tr>
<td>Total Water Surface Area</td>
<td>5.5</td>
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</table>
Recharge & Recovery

* Department held a public meeting detailing and discussing issues and proposals on July 14, 2021.
  * Potential proposals would simplify the programs and reduce regulatory burden while meeting the goals of the program and maintaining sound water management practices
* ADWR staff is currently considering the feedback received from stakeholders.
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8. Management Plans Update – Natalie Mast, ADWR
   Natalie will provide information on the 5th Management Plans development process and the timeline for adopting those plans.
9. Call to the Council – Council
10. Call to the public – Chair
11. Adjournment - Chair
1. Call to Order – Welcome & Introductions – Chair
2. Webinar Logistics – Makenna Welsch, ADWR
3. AMWUA Water Loss Control Training and Technical Assistance Program – Patrick Adams, AMWUA
   Patrick will present results of the WMAP funded AMWUA Water Loss Control Training Program.
4. Colorado River Update – Craig McGinnis, ADWR
   Craig will provide an update on Colorado River hydrology.
5. Arizona Water Bank Authority Preliminary 2022 Plan of Operation – Virginia O’Connell, AWBA
   Virginia will present the AWBA 2022 Preliminary Plan of Operation to the GUAC and the public.
6. Groundwater Withdrawal Fee Recommendation & WMAP
   a. Review withdrawal fee rates and money collected in past five years, WMAP projects, and remaining balance – Kyle Miller, AWDR
   b. Discuss and recommend to ADWR Director groundwater withdrawal fee rates for reporting year 2022 - Council
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