I. Welcome
II. 5MP Statutory Framework and Key Issues
   I. Statutory Requirements
   II. Conservation
III. Analyses of Base and BMP Programs
IV. Path Forward and Closing Remarks
5MP Statutory Framework and Key Issues
Management Goals
(A.R.S. § 45-562)

Safe-yield:
“A groundwater management goal which attempts to achieve and thereafter maintain a long-term balance between the annual amount of groundwater withdrawn in an active management area and the annual amount of natural and artificial recharge in the active management area.”
(A.R.S. § 45-561(12))

Prescott, Phoenix, and Tucson AMAs:
Safe-yield by the year 2025

Pinal AMA:
To allow development of non-irrigation uses and to preserve existing agricultural economies in the AMA for as long as feasible, consistent with the necessity to preserve future water supplies for non-irrigation uses.

Santa Cruz AMA:
To maintain a safe-yield condition in the AMA and to prevent local water tables from experiencing long term declines
## Statutory Requirements - Summary

<table>
<thead>
<tr>
<th>A.R.S. § 45-564 et seq.</th>
<th>1MP</th>
<th>2MP</th>
<th>3MP</th>
<th>4MP</th>
<th>5MP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculate Water Duty</td>
<td>✓</td>
<td></td>
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<td></td>
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<tr>
<td>Municipal GPCD Reduction</td>
<td>✓</td>
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<tr>
<td>Municipal Lost &amp; Unaccounted for Water</td>
<td>✓</td>
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<tr>
<td>General Industrial Conservation</td>
<td>✓</td>
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<tr>
<td>Conservation for Untreated Providers</td>
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<tr>
<td>Conservation for Small Providers</td>
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<tr>
<td>Municipal Non-Per Capita Conservation</td>
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<tr>
<td>Incentives for Augmentation/Recharge</td>
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<tr>
<td>Assessment of Water Quality</td>
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<tr>
<td>Program for Conservation Assistance</td>
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<tr>
<td>Historical Natural Recharge</td>
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<tr>
<td><strong>May Reduce Highest 25% of Water Duties</strong></td>
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<tr>
<td>Agricultural Historic Cropping Program</td>
<td></td>
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<tr>
<td>Agricultural BMP Program</td>
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<tr>
<td>Option for Alternative Agricultural Programs</td>
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<tr>
<td>May Establish Cropped Acreage Program</td>
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<tr>
<td>May Include Program for GFR Purchase &amp; Retirement</td>
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<tr>
<td>Recommendations to AWBA/for well locations</td>
<td></td>
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</tr>
</tbody>
</table>
Key Issues

* Continued Progress toward Management Goals
* Definitions and Strategies
* Timeline and Transition into Drier Future
Conservation in the Context of the 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.”
5MP Goal: Finding conservation and efficiency in all sectors that is both practical and makes incremental progress toward reducing withdrawals of groundwater

* 5MP needs to contain flexibility and make progress to take us into the future
* Statutes do not yet define what comes after the 5MP
  * We anticipate there will be some continued water management structure, but the details of that and the timing are yet to be defined.
  * The 5MP Conservation Requirements will remain in place until subsequent requirements become effective.
Overview of BMP Conservation Program Data and Analyses
Agricultural Conservation Programs

- **Base Program**
- **Historic Cropping Program**
- **Best Management Practices Program (BMP)**

Conservation Programs include:
- Regulatory requirements related to water use
- Reporting requirements
- Conservation targets
- Flexibility provisions
- Compliance provisions

A.R.S. § 45-563(A): “...The plans shall include a continuing mandatory conservation program for all persons withdrawing, distributing or receiving groundwater designed to achieve reductions in withdrawals of groundwater.”
Change in Allotments and Irrigation Acres

Percent Change in Alottment Over Time

Percent Change in Irrigation Acres Over Time
A.R.S. § 45-568.02(G)

“The director shall include... a best management practices program... in lieu of complying with an irrigation water duty and a maximum annual groundwater allotment. The program shall be designed to **achieve conservation that is at least equivalent to that required under [the Base Program].”**

<table>
<thead>
<tr>
<th>AMA</th>
<th>Number of IGRs Enrolled in the BMP Program</th>
<th>Irrigation Acres Enrolled in the BMP Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinal</td>
<td>312</td>
<td>83,481</td>
</tr>
<tr>
<td>Phoenix</td>
<td>172</td>
<td>26,700</td>
</tr>
<tr>
<td>Total</td>
<td>484</td>
<td>110,181</td>
</tr>
</tbody>
</table>
Agricultural BMP Program

### Average All Years (2008-2018)

<table>
<thead>
<tr>
<th>AF/Irrigation Acre</th>
<th>Base</th>
<th>BMP</th>
<th>% difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinal AMA</td>
<td>4.7</td>
<td>5.6</td>
<td>18%</td>
</tr>
<tr>
<td>Phoenix AMA</td>
<td>3.6</td>
<td>4.6</td>
<td>36%</td>
</tr>
<tr>
<td>Total All AMAs</td>
<td>3.9</td>
<td>4.5</td>
<td>17%</td>
</tr>
</tbody>
</table>
Base Program & BMP Program Combined Water Use and Allotments
Base Program Water Use and Allotments

![Graph showing water use and allotments over years](chart.png)
BMP Program Water Use and Allotments
CropScape displays United States Department of Agriculture (USDA) Cropland Data Layer (CDL)

- Available here: https://nassgeodata.gmu.edu/CropScape/
- Cropland Data Layer (CDL)
  - Reported annually for the continental United States since 2008
  - Remote sensing data of crop cover
  - Includes fallow/idle acres
# Agricultural BMP Program

## Actively Irrigated Acres

### Average All Years (2008-2018)

<table>
<thead>
<tr>
<th>Location</th>
<th>Base</th>
<th>BMP</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinal AMA</td>
<td>4.1</td>
<td>4.6</td>
<td>13%</td>
</tr>
<tr>
<td>Phoenix AMA</td>
<td>5.2</td>
<td>5.6</td>
<td>8%</td>
</tr>
<tr>
<td>Total All AMAs</td>
<td>4.5</td>
<td>4.9</td>
<td>9%</td>
</tr>
</tbody>
</table>
Acre Feet Per Irrigation Acre

Pinal AMA

Phoenix AMA

Percent of Program Type

0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 >10 Acre Feet/Acre

Base Program  BMP Program

Percent of Program Type

0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 >10 Acre Feet/Acre

Base Program  BMP Program
Groundwater Use By Program Type: Pinal AMA

Groundwater Use Over Time by Program Type

Base Program Groundwater Use Over Time

BMP Program Groundwater Use Over Time

Year

Groundwater Use Over Time by Program Type (AF)

Groundwater Use (AF)

0 50,000 100,000 150,000 200,000 250,000 300,000 350,000 400,000 450,000 500,000


Groundwater Use (AF)
Groundwater Use by Program Type: Phoenix AMA
The Agricultural BMP Program is not currently achieving conservation at least equivalent to that required under the Base Program.

A.R.S. § 45-568.02(G)

“The director shall include... a best management practices program... in lieu of complying with an irrigation water duty and a maximum annual groundwater allotment. The program shall be designed to achieve conservation that is at least equivalent to that required under [the Base Program].”
Path Forward & Closing Remarks
Estimated 5MP Timeline

- **2020**: MPWG
  - Program Analysis
  - Program Development

- **2021**: Drafting
  - Document Structure & Content
  - Implementation & Strategy

- **2022**: Promulgation
  - Present to GUACs and stakeholders
  - Conservation Programs become effective 1/1/2025

- **Estimated 5MP Timeline**: 2020-2022
  - 2020
  - 2021
  - 2022

- **Promulgation**: Present to GUACs and stakeholders
  - Conservation Programs become effective 1/1/2025
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.”

ADWR-led stakeholder forum for the development of the 5th Management Plans

Goals:
* Assess existing conservation programs
* Update existing management strategies
* Develop new management strategies
Agricultural Subgroup

Update from Past Meetings:

* Discussion of water use data and conservation in the Base and BMP Programs
* Discussed new concepts for 5MP Agricultural Conservation

Next Steps for Future Meetings:

* Further discuss and develop 5MP Programs
  * Changes to BMP Program
  * Integrated Farm Program
* Discuss options for AMA-specific customization

Next Meeting:

7/20: 5MP Conservation Programs
MPWG Subgroups

{ All meeting info is available at new.azwater.gov/5MP }

Work Group

- MPWG
  - 8/11/2020

Subgroup

- Ag
  - 7/20/2020
- Muni
  - 6/4/2020
- Industrial
  - TBD
- Safe-Yield Technical
  - 7/7/2020

Breakout

- Turf
  - 6/22/2020
Questions?

managementplans@azwater.gov

Management Plans Work Group:
new.azwater.gov/5MP

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