I. Welcome and Introduction
II. Overview of AMA Data
III. Future Meetings & Logistics
IV. Closing Remarks
Overview of AMA Data
Regulatory Structure

- Registration of all wells
- Adequate Water Supply
- Community Water Systems Documentation
  - Expansion of irrigated acres is prohibited
  - Monitoring and Reporting
  - Assured Water Supply
  - Management Goals, Plans, & Conservation Programs
  - Withdrawal Fees
Active Management Areas (AMA) & Irrigation Non-Expansion Areas (INA)

Five AMAs
- Prescott AMA
- Phoenix AMA
- Pinal AMA
- Tucson AMA
- Santa Cruz AMA

Three INAs
- Joseph City INA
- Harquahala INA
- Douglas INA
AMA Annual Reports

* Non-exempt wells (>35 gpm) inside AMAs and INAs must meter well pumpage.
* Users subject to reporting requirements must submit Annual Water Withdrawal and Use Reports –
  ➢ Due March 31st each year
* Volume of groundwater pumped by well
* Report movement of water
  * Types and Volumes of Water Delivered/Received
  * Types and Volumes of Water Stored/Recovered
  * Generation/Discharge of Effluent
* May report types of end use
* Additional information related to conservation requirements or any other information the director deems necessary
Compiled AMA data is available at [new.azwater.gov/ama/ama-data](http://new.azwater.gov/ama/ama-data)
Statewide Water Use information is available at [www.arizonawaterfacts.com](http://www.arizonawaterfacts.com)
* Data Summary Templates for each AMA
* Interactive Dashboard
* Downloadable Datasets
* Data Glossary

https://new.azwater.gov/ama/ama-data
Other Data

* ADWR Estimates
  * Tribal water use inside the AMAs
  * Exempt well water use inside the AMAs
* ADWR Regional Groundwater Models
  * ADWR Well Level Monitoring
* CAGRD Replenishment
* Bureau of Reclamation
  * Colorado River Diversions and Consumptive Use
  * Contributions to Lake Mead
* USGS
  * Water Use Estimates outside the AMAs
* US Census
* US Bureau of Economic Analysis
ADWR is working to improve its strategies and structures around data quality, with a goal of increasing data consistency and transparency.

All Annual Reports undergo a QA/QC process, but ultimately we rely on the reporting party for accurate and high-quality data.

Different data sources may have different levels of confidence and reliability.

- Annual Reports
- USGS Groundwater Estimates

Gaps in Available Data
- Example: Actively Irrigated Acreage inside AMAs
Water Supply and Demand by AMA
The AMAs contain 80.2% of Arizona’s population and represent 53.1% of Arizona’s water use.
Prescott AMA Supply

2017

- Groundwater: 64%
- In-State Surface Water: 14%
- Colorado River: 18%
- Effluent: 18%

Thousand gallons per year from 1991 to 2017.

Groundwater

In-State Surface Water

Colorado River

Effluent
Prescott AMA Demand

2017

- Agricultural: 8%
- Municipal: 15%
- Industrial: 77%

Thousands

- Agricultural
- Municipal
- Industrial

1991 to 2017
Prescott AMA Overdraft
Phoenix AMA Supply

2017

- Groundwater: 31%
- Colorado River: 28%
- In-State Surface Water: 32%
- Effluent: 9%

Millions

1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017

- Groundwater
- In-State Surface Water
- Colorado River
- Effluent
Phoenix AMA Demand

2017

8%
44%
48%

Agricultural
Municipal
Industrial

Millions

1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017

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Phoenix AMA Overdraft

Recharge | AF | Overdraft

Year


-300000 -200000 -100000 0 100000 200000 300000

Overdraft | Overdraft-20 year | Linear (Overdraft) | Linear (Overdraft-20 year)
Pinal AMA Supply

2017

39%

49%

12%

Groundwater

In-State Surface Water

Colorado River

Effluent

Millions

1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017
Pinal AMA Demand

2017

95%

3%

2%

- Agricultural
- Municipal
- Industrial

Millions

1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017
Pinal AMA Overdraft

Recharge | AF | Overdraft

Year

Overdraft
Overdraft-20 Year
Linear (Overdraft)
Linear (Overdraft-20 Year)
Tucson AMA Demand

2017

- Agricultural: 15%
- Municipal: 49%
- Industrial: 36%

Thousands

Years (1991-2017)

Agricultural
Municipal
Industrial

Legend:
Santa Cruz AMA Supply

2017

99%

0.69%

0.10%

Groundwater

Colorado River

In-State Surface Water

Effluent

Thousands

1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017
Santa Cruz AMA Demand

Pie Chart: 2017
- 57% Agricultural
- 36% Municipal
- 7% Industrial

Graph: Thousands of AMA
- Years: 1991 to 2017
- Categories: Agricultural, Municipal, Industrial
Santa Cruz AMA Overdraft

Recharge | AF | Overdraft

Year

Overdraft | Overdraft-20 year | Linear (Overdraft) | Linear (Overdraft-20 year)
Overdraft Summary
5-year Averages

Recharge [kAF] Overdraft

- 1985-1990
- 1991-1995
- 1996-2000
- 2001-2005
- 2006-2010
- 2011-2015

Prescott, Phoenix, Pinal, Tucson, Santa Cruz

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Management Plans
  * Analyzing the Effectiveness of the Conservation Programs
  * Informing the Development of new Programs and Policies
  * Analyzing Safe-Yield and Progress toward the Goals

Role of each Sub-Group
  * What questions should we be asking of the data?

Developing Methodology
  ➢ Transparency through collaboration and through the eventual publication of a Conservation Progress Report
Data Availability

* ADWR is actively working to improve data transparency and availability.
* All ADWR data is public record.
  * Various datasets are available via online live queries.
  * Others could be made available or are available by request.
* AMA Data Page: https://new.azwater.gov/ama/ama-data
Ideas for Data Improvements

* Potential Additional Analyses
  * Other breakdowns, charts, or comparisons
* Potential Additional Data Sources or Reporting
* Focus
  * Statewide
  * AMA
    * How do they compare to each other?
  * Sector or user? Sub-basins?
* Success stories or areas for improvement

* How can we best communicate this information and the stories in this data?
  * What are the stories here and how can we best share them?
* Incorporating dashboards into public webpages
Future Meetings and Logistics
First Round of Sub-groups meetings will focus on data specific to that group/sector and goals for the group.

**SEPTEMBER 2019**

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* Municipal  
  * 9/4 at 1pm

* Agricultural  
  * 9/5 at 1pm

* Industrial  
  * 9/10 at 1pm

* Safe-Yield Technical  
  * 9/26 at 1pm

Next full MPWG meeting: 12/4 at 2pm
Logistics

* Participation
  * Open to anyone
  * Looking for feedback and to learn from participants’ expertise
    * Expecting an open, collaborative, and solution-driven process
* Webinar is available
* Meeting Locations
  * Subgroups: ADWR 4th Floor, Middle Verde Conference Room
  * MPWG: ADWR 3rd Floor, Room #3175
Questions?

managementplans@azwater.gov

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

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