

ARIZONA HOUSE OF REPRESENTATIVES
Fifty-fourth Legislature - First Regular Session

HOUSE AD HOC COMMITTEE ON GROUNDWATER SUPPLY IN PINAL COUNTY

Report of Interim Meeting
Friday, October 11, 2019
Casa Grande City Council Chambers -- 1:30 P.M.

Convened 1:30 P.M.

Recessed

Reconvened

Adjourned 4:11 P.M.

MINUTES RECEIVED
CHIEF CLERK'S OFFICE

10-16-19

Members Present

Representative Cook, Chairman
Mr. Buschatzke
Representative Campbell
Representative Gabaldón
Representative Roberts
Representative Rodriguez

Members Absent

Representative Griffin

Agenda

Original Agenda – Attachment 1

Request to Speak

Report – Attachment 2

Committee Attendance

Report – Attachment 3

Presentations

<u>Name</u>	<u>Organization</u>	<u>Attachments (Handouts)</u>
Jake Lenderking	Global Water Resources	4
Terri Sue Rossi	Arizona Water Company	5
Joe Singleton	Pinal County Water Augmentation Authority	6
Director Buschatzke	Arizona Department of Water Resources	7, 8


Sharon Carpenter, Policy Advisor
October 16, 2019

(Original attachments on file in the Office of the Chief Clerk; video archives available at <http://www.azleg.gov>)

ARIZONA STATE LEGISLATURE

INTERIM MEETING NOTICE OPEN TO THE PUBLIC

HOUSE AD HOC COMMITTEE ON GROUNDWATER SUPPLY IN PINAL COUNTY

Date: Friday, October 11, 2019
Time: 1:30 P.M.
Place: Casa Grande City Council Chambers
510 E. Florence Blvd.
Casa Grande, AZ 85122

Convened 1:30pm
Adjourned 4:11pm

AGENDA

1. Call to Order
2. Presentations:
 - Municipal and Industrial Water Users Perspective in Pinal County
 - Background, Membership and Purpose of Pinal County Water Augmentation Authority
 - Arizona Department of Water Resources
3. Public Testimony
4. Committee Discussion
5. Adjourn

Members:

Representative David L. Cook, Chair ✓
Representative Noel Campbell ✓
Representative Rosanna Gabaldón ✓
Representative Gail Griffin
Representative Bret Roberts ✓
Representative Diego Rodriguez ✓
Thomas Buschatzke ✓

10/3/19
10/4/19
jy
JY

People with disabilities may request reasonable accommodations such as interpreters, alternative formats, or assistance with physical accessibility. If you require accommodations, please contact the Chief Clerk's Office at (602) 926-3032 or through Arizona Relay Service 7-1-1.

PLEASE COMPLETE THIS FORM FOR THE PUBLIC RECORD



HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on Pinal Water Bill Number _____
 Date 10-11-2019 Support Oppose Neutral
 Name Craig McFarland Need to Speak? Yes No
 Representing City of Casa Grande Are you a registered lobbyist? _____
 Complete Address _____
 E-mail Address 152 W. Auburn Phone Number _____
 Comments: SKg et. Casa Grande, AZ

FIVE-MINUTE SPEAKING LIMIT

PLEASE COMPLETE THIS FORM FOR THE PUBLIC RECORD



HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on Groundwater Supply in Pinal Bill Number _____
 Date 10/11/19 Support Oppose Neutral
 Name Dick Powell Need to Speak? Yes No
 Representing Casa Grande, Pinal Are you a registered lobbyist? _____
 Complete Address 1060 N Lelumborg Casa Grande AZ
 E-mail Address DPowell@casagrande.az.gov Phone Number 520-483-4139
 Comments: Water Issues

FIVE-MINUTE SPEAKING LIMIT

PLEASE COMPLETE THIS FORM FOR THE PUBLIC RECORD



HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on Pinal County Groundwater Bill Number N/A
 Date 10/11/19 Support Oppose Neutral
 Name Chelsea McGuire Need to Speak? Yes No
 Representing AZ Farm Bureau Are you a registered lobbyist? yes
 Complete Address 325 S. Higley Rd. Gilbert, AZ
 E-mail Address chelseamcguire@azfb.org Phone Number 480 635 3602
 Comments: Addressing reality of agriculture's water use capacity

FIVE-MINUTE SPEAKING LIMIT

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HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on AD HOC Bill Number _____
 Date 10/11/19 Support Oppose Neutral
 Name Christopher Sales Need to Speak? Yes No
 Representing Town of Florence Are you a registered lobbyist? No
 Complete Address _____
 E-mail Address _____ Phone Number _____
 Comments: _____

FIVE-MINUTE SPEAKING LIMIT

PLEASE COMPLETE THIS FORM FOR THE PUBLIC RECORD



HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on Groundwater Supply in Pinal County Bill Number _____

Date 10-11-19 Support Oppose Neutral

Name PAT Joltas Need to Speak? Yes No

Representing ATTESA Are you a registered lobbyist? _____

Complete Address 4244 PETTY HALL CHANDLER AZ

E-mail Address PAT@JOLTAS.COM Phone Number _____

Comments: _____

FIVE-MINUTE SPEAKING LIMIT

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HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on Groundwater Supply in Pinal Bill Number _____

Date 10-11-19 Support Oppose Neutral

Name Jim Goldman Need to Speak? Yes No

Representing Farmers (Self) Are you a registered lobbyist? _____

Complete Address 2733 East Steele Rd Coolidge

E-mail Address _____ Phone Number 520-723-7280

Comments: _____

FIVE-MINUTE SPEAKING LIMIT

PLEASE COMPLETE THIS FORM FOR THE PUBLIC RECORD



HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on Groundwater Supply in Pinal County Bill Number _____
Date 10-11-19 Support Oppose Neutral
Name STEPHEN MILLER Need to Speak? Yes No
Representing Pinal County Are you a registered lobbyist? NO
Complete Address _____
E-mail Address STEPHEN.MILLER@PINAL.GOV Phone Number _____
Comments: _____

*****FIVE-MINUTE SPEAKING LIMIT*****

ARIZONA STATE LEGISLATURE
Fifty-fourth Legislature – First Regular Session

INTERIM COMMITTEE ATTENDANCE RECORD

COMMITTEE ON HOUSE AD HOC COMMITTEE ON GROUNDWATER SUPPLY
IN PINAL COUNTY

CHAIRMAN: David Cook VICE-CHAIRMAN: _____

DATE	10/11/19	/19	/19	/19	/19
CONVENED	1:30 pm				
RECESSED					
RECONVENED					
ADJOURNED	4:11 pm				
MEMBERS					
Thomas Buschatzke	✓				
Representative Noel Campbell	✓				
Representative Rosanna Gabaldón	✓				
Representative Gail Griffin	exc				
Representative Bret Roberts	✓				
Representative Diego Rodriguez	✓				
David Cook, Chairman	✓				

✓ Present --- Absent exc Excused



Global Water Resources

Owner and Operator of Regulated Water &

Wastewater Utility Companies

House Ad Hoc Committee on
Groundwater Supply in Pinal County

Jake Lenderking, Director of Water Resources

October 11, 2019

The writing's on the wall

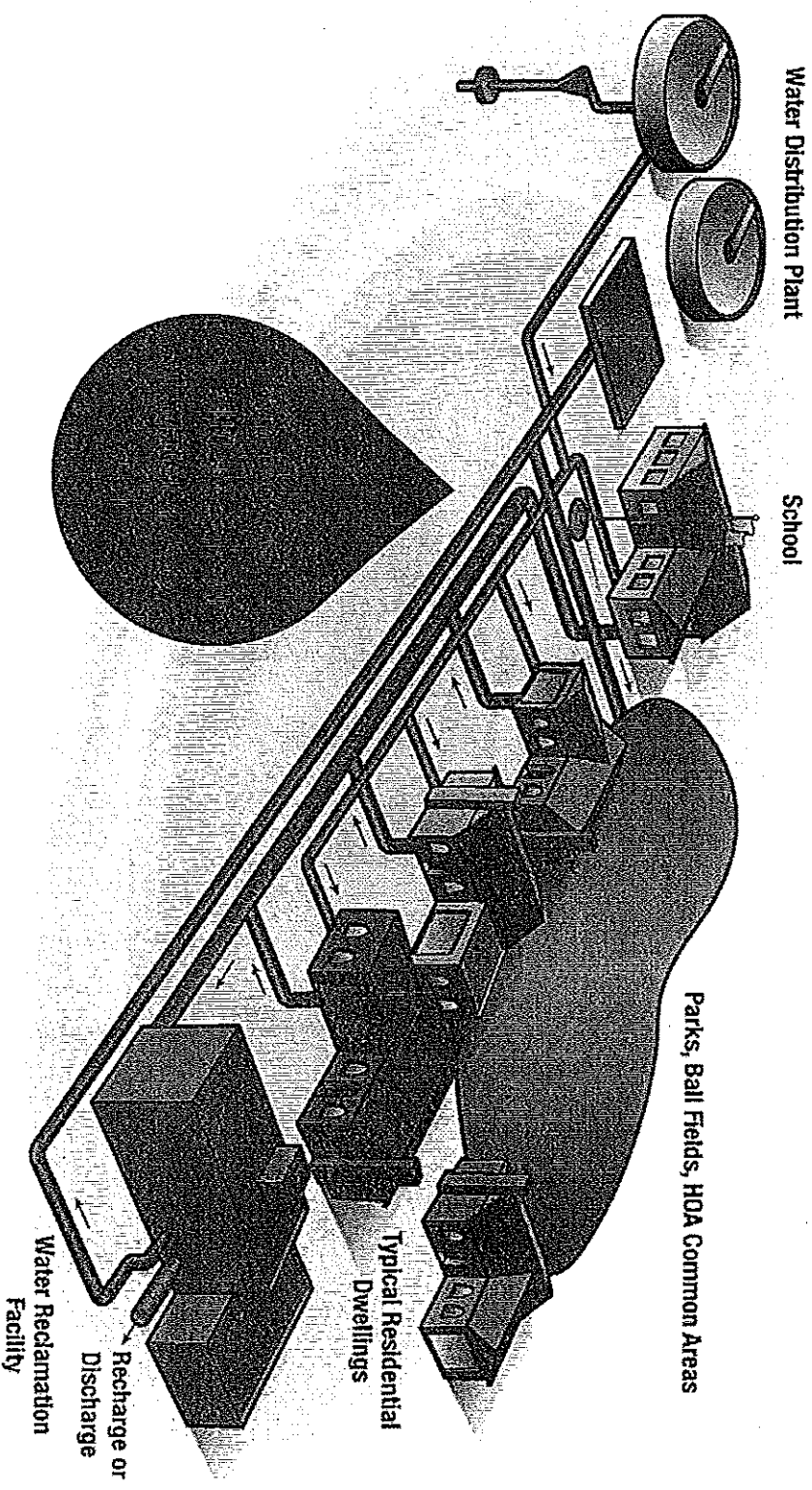
Dealing with drought means preparing to recycle

If you still don't believe that drought is a real possibility, you should read the following article by Robert W. Hargrove, author of "The Water Wars: How the Fight for Water is Changing the World" (see www.gwr.com). The article is a must-read for anyone who is interested in the future of water. It discusses the impact of climate change on water resources and the need for water conservation and recycling. It also discusses the impact of population growth and the need for water infrastructure investment. The article is a must-read for anyone who is interested in the future of water.

GLOBAL WATER
LEADERSHIP IN WATER

Global Water was founded to address
the certainty of Water Scarcity.

Growth + Diminishing Supply =
Water Scarcity



Communication Preferences

Bill Delivery Method
You will receive your bill statements by

Email
 Paper

Bill Reminder
You will receive a reminder five days before your bill is due

Email
 Text Message
 Voice Message

Leak Alerts
You will be notified if we think you have a leak. If your property water meter continuously tells us you have a leak:

Email
 Text Message
 Voice Message

Daily Use Notifications
You will be notified when you use over 25 liters your normal seasonal use.

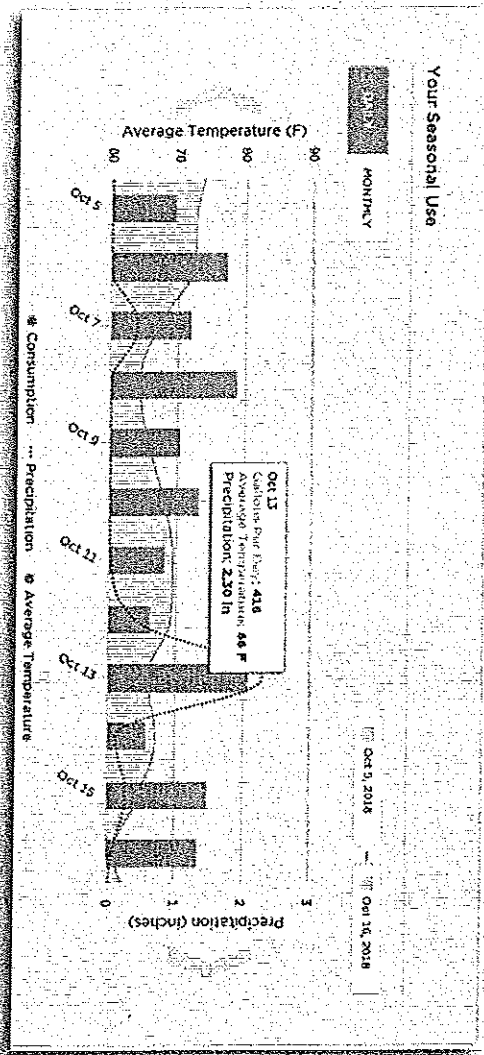
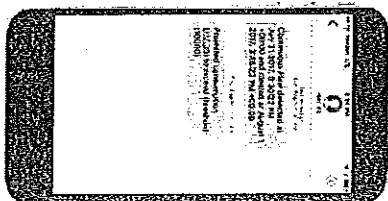
Email
 Text Message
 Voice Message

Bill Forecast Notifications
You will be notified if your use in the forecast period is on track to exceed \$50 more than your normal seasonal bill. We will only contact you a maximum of once per billing period.

Email
 Text Message
 Voice Message

Customers can view monthly, daily, hourly water consumption online.

Proactive high consumption and leak notifications via email, text message, or both.





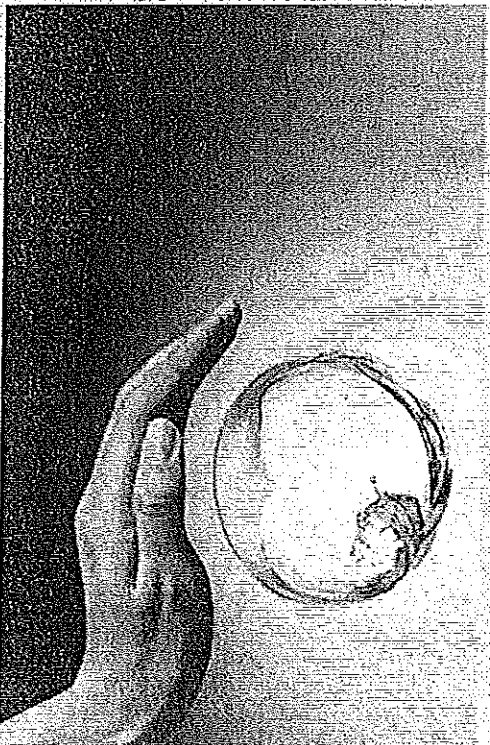
West Valley Region

Global Water Service Area

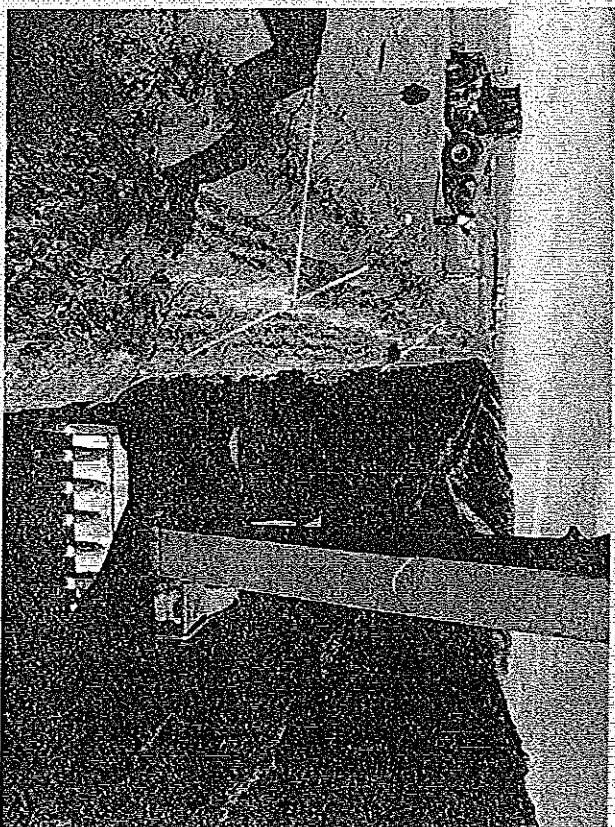
Water Utility of Northern Scottsdale



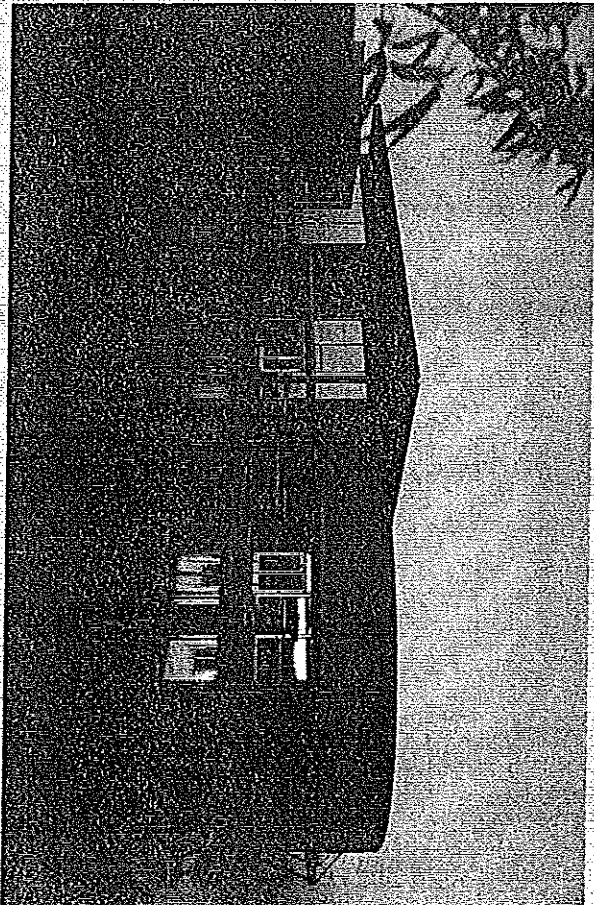
- **Assured Water Supply program pause**
 - The groundwater model
 - The volume of Analyses of Assured Water Supply
 - Changes to Certificates of Assured Water Supply
- **DCP / CAP Water reductions**
- **Withdrawal and the exportation of banked water**



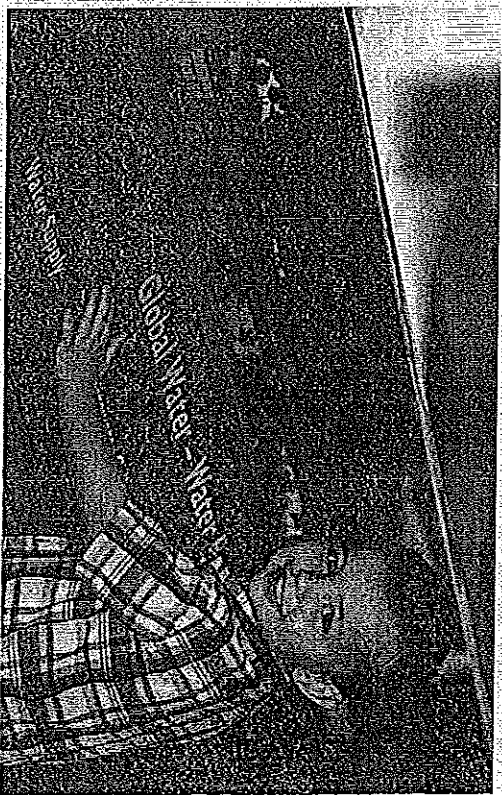
- **Current estimated population 457,000**
- 2050 projected population 1.5 million
- **Business investments into Pinal County**
 - \$10.82 Billion - 10,035 jobs - announced
 - \$1.12 Billion - 910 jobs - already operating



- **Comprehensive Plans**
 - Counties, cities, and towns
- **Eloy and Maricopa Stanfield Basin Study**
 - \$1.36 million, 3 year water supply and demand study
- **Other group meetings**
 - Bi-weekly with Casa Grande, Pinal County, and PCWAA
 - Task Force
 - PCWAA
 - GUAC



- **Numerous potential solutions**
 - Model and AWS program adjustments
 - Analyses of Assured Water Supply
 - Financing renewable supplies
 - Water importation
- **Stakeholder group**
 - Policy makers and elected officials
 - Stakeholders
 - ADVWR





Global Water Resources, Inc.

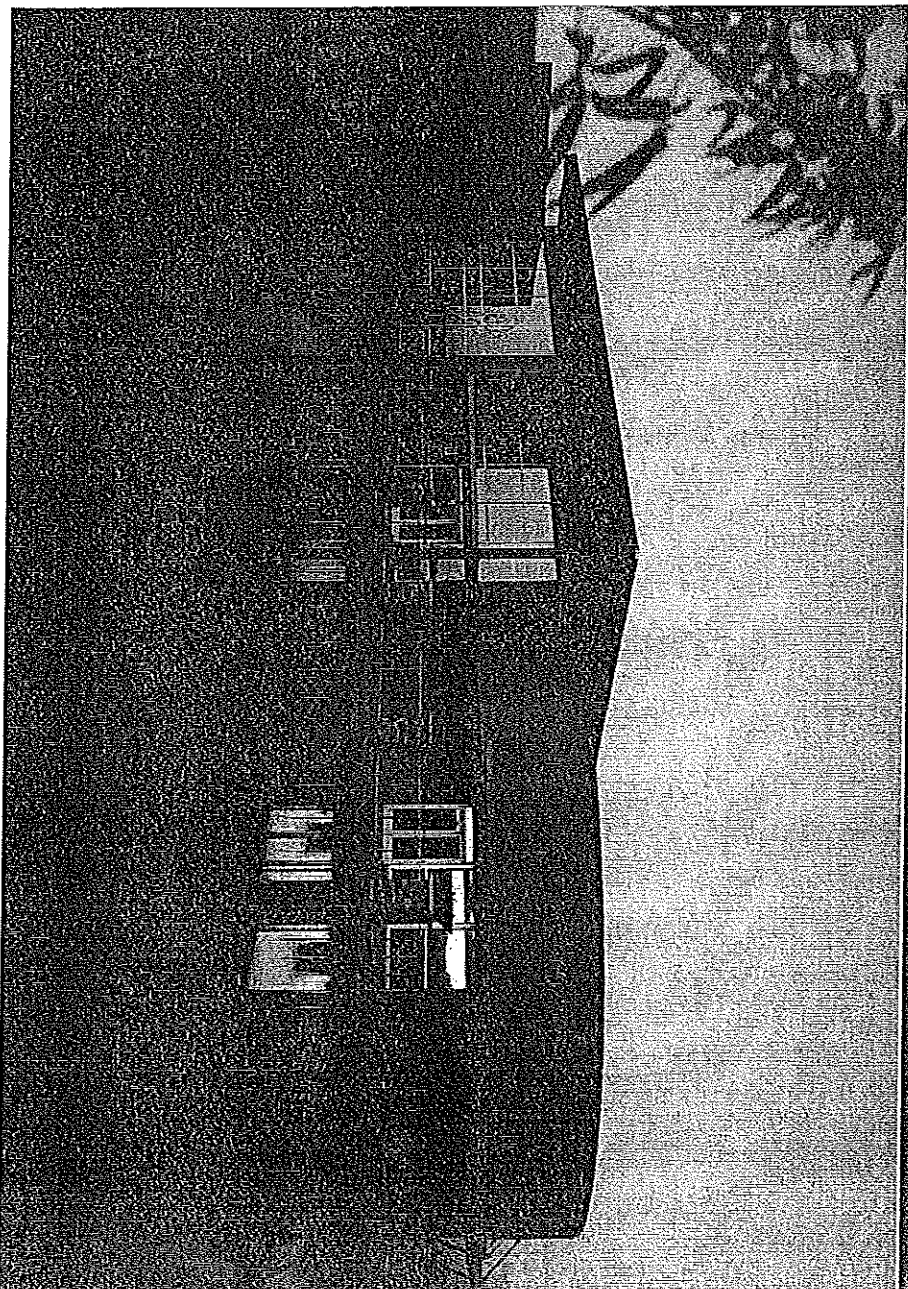
Jake Lenderking

Director of Water Resources

Jake.Lenderking@gwresources.com

480 225 4038

www.gwresources.com



Ad Hoc Committee On Groundwater
Supply in Pinal County
an Arizona Water Company Perspective

October 11, 2019

Presenter

Fred Schneider, President
Arizona Water Company



What we are doing...

1. Developing joint water resource plan
 - Coolidge, Casa Grande and Pinal County
2. Major focus of plan
 - Quantifying volume of available groundwater
 - Creating certainty around use of CAP water for Assured Water Supply purposes
 - Exploring other potential water supply sources inside AWWC's Pinal Valley planning area
 - Evaluating workable financial mechanisms
3. Recharge and Recovery
 - Groundwater Savings Facilities with local Irrigation Districts
 - Pinal Valley Recharge Project
4. Working to create predictable regulatory environment



Suggestions for Moving Forward

Create Pinal AWA Water Management Interest Group

- Diverse group of stakeholders including PCWAA
- Dual mission

1. Create “Bridge Plan”

- Relieve immediate pressure and stabilize regulatory environment
- Create predictable system for modifying existing CAWS and using Analyses of AWS

2. Prepare Pinal-Specific Post-2025 Water Management

- Carry forward tried and true
- Propose and advocate changes to make regulatory environment workable for the Pinal County of today



AWWS Issues

1. Model is a regional, not a local, decision-making tool
 - CAWS small, localized, individual decisions
 - Bottom-up detailed approach collides with top-down global modeling assumptions
2. Existing CAWS “set in stone”
 - CAWS issued prior to 2009 not reflective of modern day Pinal County
 - Modifying existing CAWS difficult
3. No clear path for use of Analyses of AWWS
4. Renewable supplies acquisition
 - Significant upfront costs and obstacles



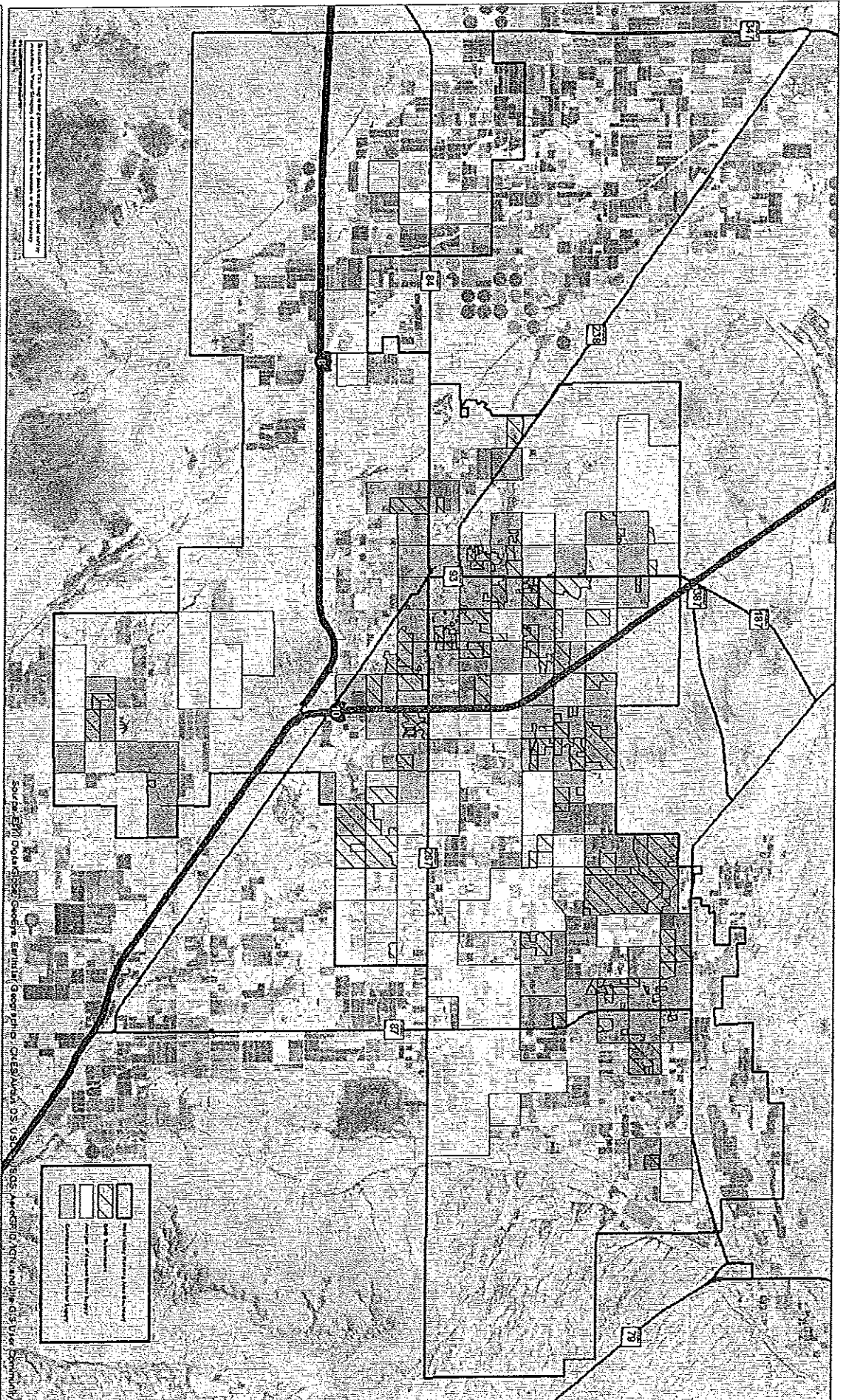
Pinal Valley System Facts

1. Fastest growing system
2. Certificates of Assured Water Supply*
Subdivisions: 262 Lots: 70,000
Water: 47,000 acre-feet
3. CAGRD membership
Subdivisions: 128 Lots: 36,658
Water: 25,708 acre-feet
4. 37,000 lots estimated as unconstructed
5. Analyses of Assured Water Supply*
Analyses: 25 Lots: 80,000
Water: 50,000 acre-feet

*Source: Arizona Department of Water Resources



Certificates and Analyses of Assured Water Supply



ARIZONA WATER COMPANY

PINAL VALLEY WATER RESOURCE PLANNING
ASSURED WATER SUPPLY DESIGNATION

Legend:
 - Areas with diagonal hatching are those which have been designated as Assured Water Supply Areas.
 - Areas with solid shading are those which have been designated as Assured Water Supply Areas.
 - Areas with cross-hatching are those which have been designated as Assured Water Supply Areas.
 - Areas with no shading are those which have not been designated as Assured Water Supply Areas.



AWC Quick Facts: Pinal County

1. Current Customers

Total: 57,000 as of September 2019

Deliveries: 23,000 acre-feet in 2018

2. CAGRD Membership

Subdivisions: 257 Lots: 54,664

Water: 34,097 acre-feet

3. Sources of Supply

CAP Water: 17,169 acre-feet

Groundwater: about 57,000 acre-feet under
Certificates of Assured Water Supply

Pumping Capacity: 49 MGD or nearly
55,000 acre-feet



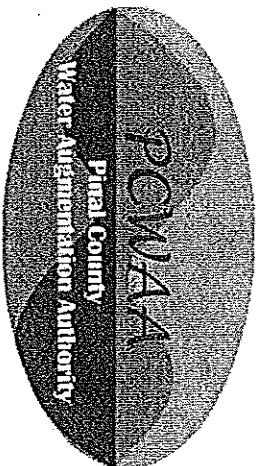
Ad Hoc Committee On Groundwater
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October 11, 2019

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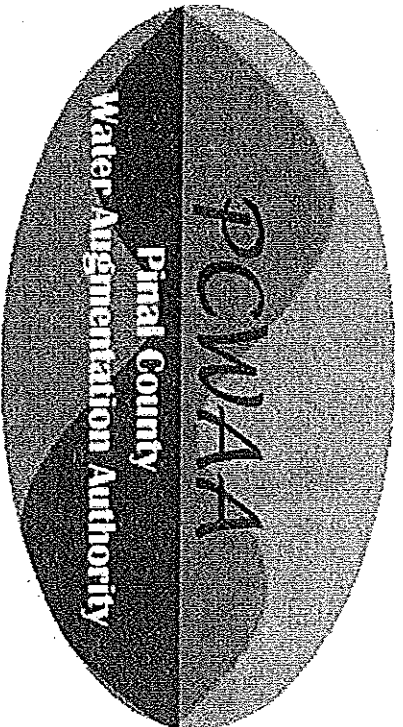




House Ad Hoc Committee on Groundwater
in Pinal County
October 11, 2019

Pinal County Water Augmentation
Authority (PCWAAA)

Arizona Revised Statutes, Sections 45-1901 through 45-1999



A corporate and political body that may act in its official corporate name

A volunteer board of directors

Goal

To support the development of responsible, collaborative, and sustainable water planning and management in the Pinal Active Management Area.

Statutory Purpose

- Regional water planning
- Assist water providers in meeting requirements of Groundwater Management Act 1980
- Cooperate in augmenting water supplies
- Represents Pinal AWMA interests in the development of Arizona water plans

PCWAA Board Members

- Pinal County, *Stephen Q. Miller*
- Casa Grande, *Dick Powell*
- Coolidge, *Melissa Campbell*
- Eloy, *Keith Brown*
- Florence, *John Anderson*
- Maricopa, *Marvin Brown*
- Papago Buttes DVID, *Bill Collings*
- Arizona Water Company, *Fred Schneider*
- Global Water Resources, *Jake Lenderking*
- Maricopa-Stanfield IDD, *Bryan Hartman*
- Central Arizona IDD, *Chris Michie*



ADWR Presentation

House Ad Hoc Committee on Groundwater Supply in Pinal County

Tom Buschatzke, Director

Arizona Department of Water Resources

Ad Hoc Committee Member

October 11, 2019

Physical Availability of Groundwater in the Pinal Active Management Area

- Looking out 100 years, there is insufficient groundwater in the Pinal Active Management Area to support all existing uses and issued assured water supply determinations.
- ADWR will engage in a process led by local stakeholders to identify and vet water supply options that could enable continued development while maintaining strong consumer protection.



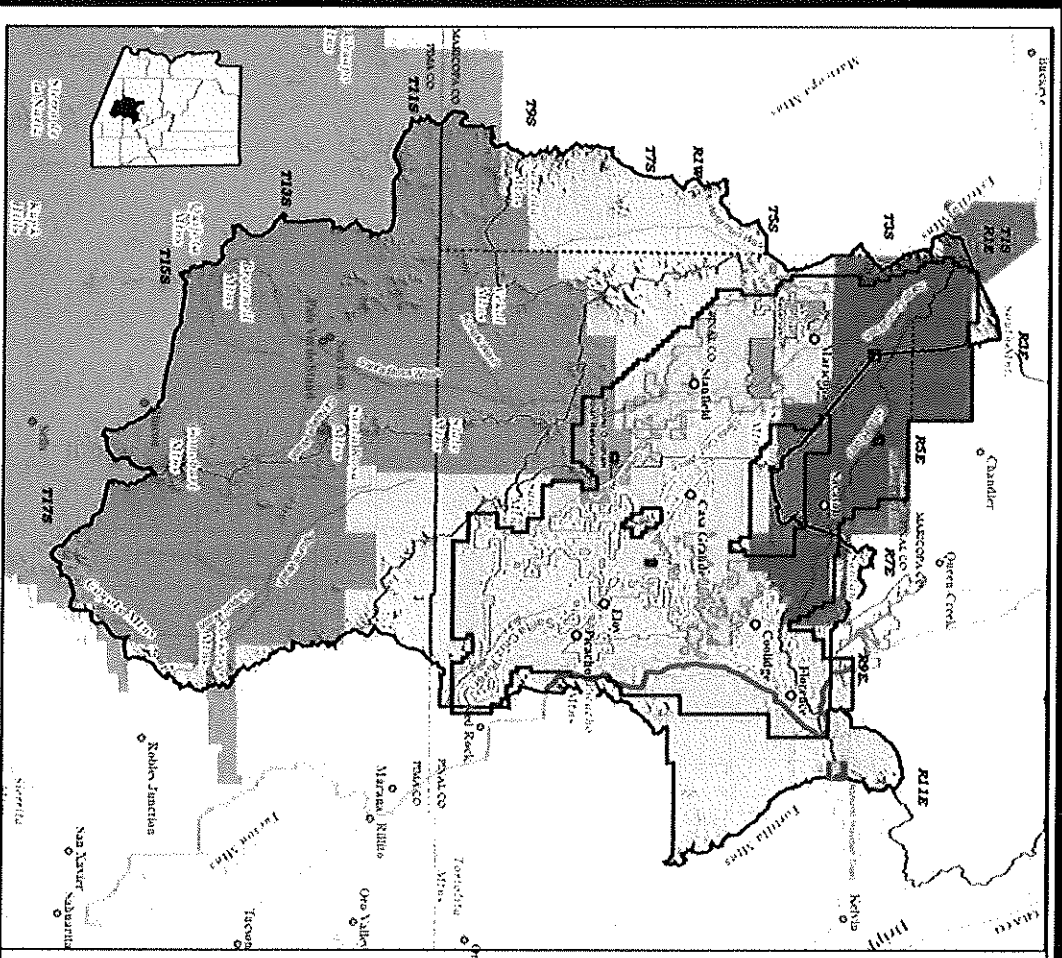
Presentation Overview

- 2019 Pinal Model Background and Results
- ADWR Efforts to Identify Solutions
 - Pinal Stakeholder Group Meetings
- ADWR Pinal Assured Water Supply Solutions Guiding Principles
- Next Steps



History of Pinal AMA Groundwater Modeling

- Prior to 2014 - AWS applicants submitted analytical and local numeric models
- 2014 – ADWR released regional numerical groundwater model
 - Peer reviewed
- 2019 - Updated model
 - Includes 100-year AWS projection and structural modifications



Preliminary AWS Model Results Shared with Stakeholders in 2017

Pinal Groundwater Model 100-Year Projections with AAWS Demands	100-Year Projection 2015 - 2114
Total Demand (AF)	94,275,363
Simulated Demand	85,668,446
Unmet Demand (AF) (Total - Simulated)	8,606,917
Percent of Model Total Demand that is Unmet	9.13%
Unmet M&I/LTSC Demand (AF) (Unmet Demand – Unmet Agriculture Demand)	4,288,886
Percent Unmet M&I or LTSC Demand	4.55%



2019 Model Revisions

- Structural modifications to model geology, increasing model thickness in several areas
- Updated pumping data and recharge data to include 2010-2015
- Updated agricultural assumptions
- Incorporated CAGRD replenishment obligations based on 2015 CAGRD Plan of Operation – using previously accrued LTSCs at a rate of 15,500 acre-feet per year



2019 Model: Agricultural Use Assumptions

- AWS demands for AWS determinations on agricultural lands are modeled to begin pumping immediately and those agricultural demands stop immediately.
- For CAIDD and MSIDD, future agricultural uses projected based on projections provided by districts and other data provided to ADWR.
- ADWR developed estimates of future agricultural uses for SCIDD, HIDD, GRIC, AK-Chin, and other IGFs
- Future agricultural uses incorporate combinations of groundwater, surface water, and CAP water where available
- Full CAP Agricultural Pool volume assumed through 2030



Assured Water Supply Issued Determinations in Pinal AMA Model Area

	Analyses			TOTALS
	Analyses	Certificates	Designations	
Issued Determinations (count)	40	209	6	255
Issued Demand (AF/YR)	126,973	55,763	48,865	231,601
Built-out and Served Demand (AF/YR)	NA	5,991	NA	5,991
Certificated Demand (AF/YR)	10,101	NA	NA	10,101
Total Demand in Model (AF/YR)	116,872	48,754	48,865	214,491
100-Year Cumulative Demand (AF)	11,687,181	4,875,410	4,886,490	21,449,081



Issued AWS Determinations within Irrigation District Boundaries

- **15% of irrigation district acres have issued certificates or analyses of assured water supply**
 - 43,919 acres within irrigation district boundaries have issued certificates or analyses of assured water supply
 - 290,644 total acres within irrigation district boundaries
- **57% of all issued certificates or analyses of assured water supply are located within irrigation district boundaries**
 - 43,919 acres within irrigation district boundaries have issued certificates or analyses of assured water supply
 - 76,449 acres within the Pinal AMA have issued certificates or analyses of assured water supply



2019 Pinal AMA Model Demands

Sectors	Total Demand (AF)	Total Demand (%)
Analysis (AAWS)	11,687,181	14%
Certificates (CAWS)	4,875,410	6%
Designations (DAWS)	4,886,490	6%
AWS Subtotal	21,449,081	27%

Sectors	Total Demand (AF)	Total Demand (%)
Agriculture	48,573,365	60%
Municipal	2,005,524	2%
GRIC M&I	500,342	1%
Industrial	2,329,255	3%
Existing Uses Subtotal	53,408,486	66%
Existing LTSC	1,169,993	1%
Future LTSC	4,620,964	6%
LTSC Subtotal	5,790,958	7%

Total Demand (AF)	Total Demand (%)
80,648,525	100%



2019 Pinal Model Results

2019 Pinal Model 100-Year Cumulative Projections	100-Year Projection 2016 - 2115
Total Demand (AF)	80,648,525
Simulated Demand (AF)	72,560,695
Unmet Demand (AF) (Total - Simulated)	8,087,830
AWS Unmet Demand (AF)	1,969,950
Agricultural Unmet Demand (AF)	5,059,056
Existing M&I Uses Unmet Demand (AF)	782,112
LTSC Removal Unmet Demand (AF)	276,712



AWS Model Results Comparison 2017 & 2019

Pinal Groundwater Model 100- Year Projections with AAWS Demands	2017	2019
	100-Year Projection 2015 - 2114	100-Year Projection 2016 - 2115
Total Demand (AF)	94,275,363	80,648,525
Simulated Demand	85,668,446	72,560,695
Unmet Demand (AF) (Total - Simulated)	8,606,917	8,087,830
Percent of Model Total Demand that is Unmet	9.13%	10.03%
Unmet M&I/LTSC Demand (AF) (Unmet Demand – Unmet Agriculture Demand)	4,288,886	3,028,774
Percent Unmet M&I or LTSC Demand	4.55%	3.76%



Stakeholder Proposals Discussed in 2017

1. Include GRD replenishment – Incorporated into 2019 Model based on 2015 Plan of Operation
2. Assume effluent reuse – Insufficient information regarding wastewater provider plans
3. Reduce groundwater reserved to match most recent demand calculator
4. Change the modeling so that demand associated with unbuilt Analyses and Certificates ramps up over time instead of starting with 100% of demands immediately
5. Requiring “on the ground progress” for analysis renewal
6. Allow reliance on a private water company outside CC&N boundaries for analysis applications



The State's Guiding Principles for Future Solutions

1. We must continue Governor Ducey's commitment to upholding the consumer protection and water sustainability objectives of the Assured Water Supply Program.
2. The stakeholder process should be community driven. The State's role will be to provide assistance and comment on proposals.



Next Steps

- The 2019 Pinal Model Report is complete and will be posted on ADWR's website after today's meeting.
- ADWR is targeting a meeting the week of October 28th to meet with applicants, consultants, and other stakeholders to present the model results in detail.
- ADWR will engage in a process led by local stakeholders to identify and vet options that could enable continued development while maintaining strong consumer protection.



Groundwater model

1. What is the current shortfall (unmet demand) in ADWR's groundwater model for the Pinal AMA?

Unmet demand occurs when the model cannot simulate pumping of all demands included, thereby creating a pumping shortfall or deficit. This pumping shortfall or deficit occurs when there is insufficient saturated aquifer to satisfy the pumping demand (i.e., the depth-to-water level reaches bedrock) or when the depth to water exceeds 1,100 feet after 100 years of simulated pumping. The 2019 Pinal Model results show a total unmet demand of approximately 8.1 million acre-feet (MAF) at the end of the model projection period in 2115. Of the 8.1 MAF of unmet demand, approximately 2 MAF is associated with issued AWS determinations pumping and 5.1 MAF is associated with agricultural pumping. (See 10/11/2019 ADWR presentation, slide 10)

2. Based on existing statutes and rules, if grandfathered groundwater uses were not included in ADWR's groundwater model, what would the volume of unmet demand be?

Pursuant to A.A.C. R12-15-716(B)(3), the model must incorporate all existing groundwater uses, including those associated with grandfathered groundwater rights, as well as future uses associated with approved assured water supply determinations.

The primary purpose of the assured water supply program is to ensure that homebuyers will have a long-term, reliable water supply. In order to ensure the long-term reliability of groundwater supplies, it is imperative to consider the cumulative impact of all groundwater pumping throughout the Pinal AMA, rather than excluding any category of ongoing groundwater use. Removing grandfathered groundwater rights from the model would not comply with Guiding Principle 1, to uphold the consumer protection and water sustainability objectives of the Assured Water Supply Program. (See 10/11/2019 ADWR presentation, slide 13)

However, the assured water supply rules allow the Director to consider likely changes in pumping patterns of existing uses. A.A.C. R12-15-716(B)(3)(b). Accordingly, the 2019 Pinal Model incorporated assumptions regarding anticipated reductions in pumping associated with irrigation grandfathered groundwater rights pursuant to data and projections provided by irrigation districts and supported by other information on file with ADWR.

- 3. We have heard there is no groundwater physically available in the Pinal AMA. Assuming this is not true across the entire AMA, how can ADWR use its model to define areas where groundwater could be successfully used for assured water supply purposes?**

As stated above, 100-year modeling results show a very large volume of unmet demand throughout the model area. It is unlikely that any specific area will produce sufficient groundwater to meet assured water supply requirements for new or pending applications without negatively affecting groundwater supplies for the rest of the AMA.

- 4. How could the groundwater model be used to test if the location of recovering water stored in a groundwater savings facility makes a material difference in the model results?**

Changing the location of pumping in the model, whether that pumping is related to groundwater withdrawal or recovery of stored water, may marginally affect the model results. However, given the high volume and widespread occurrence of unmet demand throughout the model area, substantial changes in volume, as well as pumping locations, would be required in order to materially improve the model results.

Generally, ADWR presumes that an assured water supply applicant will recover stored water within the area of impact, unless existing recovery well locations or the proposed pumping locations included in the application for a determination of assured water supply indicate otherwise.

- 5. How does replenishment by the CARGD affect physical availability of groundwater for new requests for CAWS?**

Replenishment by the Central Arizona Groundwater Replenishment District (CAGRD) is not sufficient to address unmet demands in the 2019 Pinal Model and demonstrate physical availability of groundwater for new applications.

Based on the 2015 CAGRD Plan of Operation, the model assumes that 15,500 acre-feet per year will be replenished. It is likely that the CAGRD replenishment assumptions marginally reduce the overall volume of unmet demand in the 2019 Pinal Model.

Assured Water Supplies

6. What advantages and disadvantages are there to basing material plat changes on the volume of the CAWS and not on the units under the Certificate?

In 2006, ADWR adopted A.A.C. R12-15-708, a rule defining material plat changes. That rule simplified and streamlined the previous ADWR policy regarding material plat changes by eliminating limitations regarding lot size and land use types. The rule was adopted after considerable stakeholder discussions and feedback. The current rule allows increases to the number of lots, generally of about 10% of the lot count on the original certificate.

ADWR has not fully evaluated whether the rule should be revised to allow more significant increases in the number of lots, nor has ADWR had discussions with stakeholders throughout the State who might be affected by such a rule change. However, more substantial increases in the number of lots may also result in changes to the water demand for the proposed subdivision that may exceed the certificated volume.

7. Many people believe that an assured water supply can be secured in the Pinal AMA by using long-term storage credits. What, if any, limitations or impediments should be consider about this approach before purchasing such credits?

There are several requirements that must be met in order to rely on long-term storage credits to demonstrate an assured water supply.

Pursuant to the assured water supply physical availability rule and *ADWR Substantive Policy Statement on Hydrologic Studies Demonstrating Physical Availability of Groundwater for Assured and Adequate Water Supply Applications*, long-term storage credits recovered outside the area of impact of storage can only be considered physically available if the proposed recovery pumping will not cause the depth-to-static water levels at the proposed pumping location and the locations of all issued assured water supply demands in the study area to exceed: a) the 1,100 foot maximum 100-year depth-to-static water level for the Pinal AMA or b) depth to bedrock (if depth to bedrock is shallower than 1,100 feet below land surface). This is the same physical availability criterion that applies to groundwater.

Additionally, under A.R.S. § 45-854.01(B), the Director of the Department may reject and invalidate any assignment of long-term storage credits in which the

stored water would not have met the requirements for long-term storage credits as prescribed in A.R.S. § 45-852.01 if the assignee had stored the water. One of the requirements for long-term storage credits in A.R.S. § 45-852.01(B) is that the water that was stored was water that cannot reasonably be used directly. Under the definition of “water that cannot reasonably be used directly” (frequently referred to as “WTRBUD” or “WaterBUD”) in A.R.S. § 45-802.01(22), with certain exceptions, an entity cannot earn long-term storage credits for the storage of CAP water in any year in which the entity withdrew groundwater. These provisions could have applicability to any proposed assignment of CAP long-term storage credits to a municipal water provider withdrawing groundwater.

Lastly, any application for a certificate or analysis of assured water supply for a subdivision that will receive any volume of groundwater through a municipal water provider’s commingled water delivery system must demonstrate physical availability of the groundwater that will be delivered to the subdivision.

8. What advantages and disadvantages might result in a regulatory structure that would facilitate the portability of existing CAWS?

The assured water supply statutes and rules provide for the transfer of a certificate to a new owner for the same subdivision, while maintaining the consumer protections the program was designed to provide. ADWR allows certificates to be transferred to new landowners, provided that the new landowner demonstrates that the assured water supply associated with the previous certificate will continue to be available to the prospective homeowners. The rules provide for more streamlined transfers when the legal nature of the water supplies permit. Additionally, as subdivisions begin to develop toward full build-out, the rules provide for exemptions from the requirement to transfer the certificate at all.

However, the assured water supply statutes and rules are not designed to allow for “portability” with respect to subdivision location. Given the nature of both physical and legal availability, changing the location of a development may have material impacts on the ability to obtain the water supply in a different location.

With respect to legal availability, many water rights in Arizona are appurtenant to the land. Therefore, permitting the automatic transfer of certificates from one location to another may disrupt the legal availability of the water supplies, thereby eliminating the consumer protection the assured water supply program was designed to provide.

Regarding physical availability of groundwater, allowing a certificate to be applied to a subdivision in a different location, which may also require the groundwater to be pumped from a different well location, may disrupt the physical availability not only for the future homeowners in the proposed subdivision, but also for other surrounding residents, again eliminating the consumer protection goal of the assured water supply program.

9. What strategies and approaches has ADWR considered to resolve the unmet demand unrelated to the Assured Water Supply program?

ADWR recognizes that the volume and widespread occurrence of unmet demands – both those associated with assured water supply determinations and other unmet demands – necessitates a more holistic approach. It is unlikely that the unmet demand within the model projection associated with assured water supply determinations can be resolved without also substantially reducing *all* unmet demand within the AMA. The Pinal community stakeholders will need to collaborate to identify a combination of solutions, including reduced groundwater pumping and new water resources, that could resolve the issue on a regional scale.

Since 2017, ADWR has engaged with stakeholders both formally and informally to discuss a variety of options to resolve unmet groundwater demands. Although ADWR has considered a variety of options related to revising modeling assumptions, changes to statutes and rules, and finding methods to bring new water supplies to the Pinal AMA, ADWR has consistently taken the perspective that the best solutions must come from a stakeholder-driven process and must preserve the groundwater management and consumer protection goals of the assured water supply program.

Other Questions

10. What are ADWR's solutions to allow for land and economic development in the Pinal AMA?

Given the magnitude of the problem, there is no single solution. The best solutions for Pinal County's future must be determined locally, involving all water users and industries. To that end, ADWR encourages the establishment of a community driven process that honors the letter and intent of the 1980 groundwater reforms, while remaining flexible to anticipate future population and economic growth. ADWR stands ready to provide technical support and assistance throughout the effort.

11. What are ADWR's ideas for increased replenishment and potential renewable supplies for the Pinal AMA?

Processes through which organizations or individuals in the Pinal AMA may obtain potential renewable supplies and substantially increased replenishment must account for considerable complexity, including, among other things, the opportunity costs of those acquisitions. To the extent possible, consensus or, at minimum, significant agreement should accompany such outcomes. ADWR has helped enable several similar discussions during the recent experience, including stakeholder conversations in 2017 and the ADWR-CAWCD steering committee effort.

During the negotiations of the Arizona DCP Implementation Plan, water users in other parts of the state raised concerns about transferring their water supplies to Central Arizona. Therefore, solutions arising out of the local stakeholder process that involve such water transfers will likely attract attention from other areas of the state.

12. How much freedom will Pinal AMA/County interests have to create new water management goals and to establish regulatory structures to support those new goals?

ADWR may support regulatory changes and management goal changes proposed by stakeholders that preserve the consumer protection aspect of the assured water supply program. However, the authority to change water management goals or establish regulatory structures to support new water management goals is held by policy makers.

ADWR is leading parallel processes that will also give local interests a voice in water management. ADWR, principally through the activities of the management plans work group, is refining the respective management plans for the three active management areas—Phoenix, Pinal, and Santa Cruz—which presently are within the purview of the third management plan. The purpose of this activity is to enable the adoption of the fourth management plan (4MP) for each of the three AMAs for which a final 4MP does not yet exist. ADWR has also commenced the construction of the fifth management plan (5MP) for all five AMAs. Stakeholders may participate in discussions at the work group level by sector in sub-group conversations or in the several other ways through which they may provide input. Moreover, the post 2025 AMA committee, a derivative of the Governor's Water Augmentation, Innovation, and Conservation Council, launched on October 10th.

All who desire to attend the management plan work group discussions and/or the meetings of the post-2025 committee are welcome and encouraged to take part. Residents of Pinal County may choose to participate in the broader conversations or those specific to the development of the 4MP and 5MP for the Pinal AMA.

13. How is water stored in recharge projects protected from grandfathered uses of groundwater in the Pinal AMA? How confident is ADWR that long-term storage credits pledged for Assured Water Supply would be physically available in 100 years?

ADWR does not have the authority to restrict grandfathered groundwater right pumping in order to protect water stored at underground storage facilities or groundwater savings facilities. However, A.R.S. § 45-856.01 requires ADWR to protect stored water when evaluating applications for certificates of assured water supply, designations of assured water supply, or certain permit applications.

ADWR cannot guarantee that long-term storage credits pledged to assured water supply determinations will be physically available for 100 years. Assured water supply applications that include stored water to be recovered *outside* the area of impact of storage must meet the same modeling criteria as required for groundwater pumping. Long-term storage credits pledged to an assured water supply application that will be recovered *within* the area of impact of storage are not evaluated for physical availability in the same way as groundwater or stored water to be recovered outside the area of impact of storage.

14. How do grandfathered uses of groundwater affect assured water supply determinations by ADWR?

The primary purpose of the assured water supply program is to ensure that homebuyers will have a long-term, reliable water supply. In order to ensure the long-term reliability of groundwater supplies, it is imperative to consider the cumulative impact of all groundwater pumping throughout the Pinal AMA, rather than excluding any category of ongoing groundwater use. Therefore, pursuant to A.A.C. R12-15-716(B)(3), the model must incorporate all existing groundwater uses, including those associated with grandfathered groundwater rights, as well as future uses associated with approved assured water supply determinations.

However, the assured water supply rules allow the Director to consider likely changes in pumping patterns of existing uses. See A.A.C. R12-15-716(B)(3)(b).

Accordingly, the 2019 Pinal Model incorporated assumptions regarding anticipated reductions in pumping associated with irrigation grandfathered groundwater rights as provided by CAIDD and MSIDD and supported by other information on file with ADWR.

Even with the anticipated reductions in agricultural pumping, the 2019 Pinal Model results show a very large volume, over 8 MAF, of unmet demand across several sectors at the end of the 100-year projection period throughout the model area. (See 10/11/2019 ADWR presentation, slide 10)

If there is a negative impact, what strategies and approaches has ADWR considered to mitigate grandfathered uses of groundwater that negatively affect the management goal in the Pinal AMA?

Given the magnitude of the problem, there is no single solution. The best solutions for Pinal County's future must be determined locally, involving all water users and industries. To that end, ADWR encourages the establishment of a community driven process that honors the letter and intent of the 1980 groundwater reforms, while remaining flexible to anticipate future population and economic growth. ADWR stands ready to provide technical support and assistance throughout the effort.

15. How can replenishment entities such as the CAGR D be used to secure and provide physical water supplies instead of just replenishing excess groundwater use after the fact?

Current statute permits the CAGR D, under certain conditions, to provide a physical water supply through annual replenishment in a specified location to support a designation of assured water supply for a city, town or private water company anywhere in the CAP service area. A.R.S. § 48-3772(B)(10); *see also* A.R.S. § 45-576.07. One of the statutory conditions requires that the city, town or private water company agree to provide enough water to meet the obligations undertaken by the CAGR D on behalf of the city, town or private water company. A.R.S. § 48-3772(B)(10)(c).

The statutory framework also limits the cumulative commitments by CAGR D to no more than 20,000 acre-feet per year. To date, only the City of Scottsdale has reached agreement with the CAGR D under these statutory provisions. The CAGR D commitment to the City of Scottsdale is for 3,460 acre-feet per year.

Although the statutory framework described above is applicable to cities, towns, and private water companies, statutory revisions would likely be required to authorize the CAGR D to provide physical water supplies for a subdivision. However, in order to preserve the consumer protections inherent in the assured water supply program, it will be necessary to ensure, prior to subdivision approval, that the CAGR D (or any other entity vested with such authority) will be able to secure the necessary water supplies to meet the subdivision's long-term demands.

Acronyms:

4MP – Fourth Management Plan

5MP – Fifth Management Plan

ADWR – Arizona Department of Water Resources

AMA – Active Management Area

CAGR D – Central Arizona Groundwater Replenishment District

CAIDD – Central Arizona Irrigation and Drainage District

CAP – Central Arizona Project

CAWS – Certificates of Assured Water Supply

MSIDD – Maricopa Stanfield Irrigation and Drainage District