

ADWR Presentation

House Ad Hoc Committee on Groundwater Supply in Pinal County

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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.



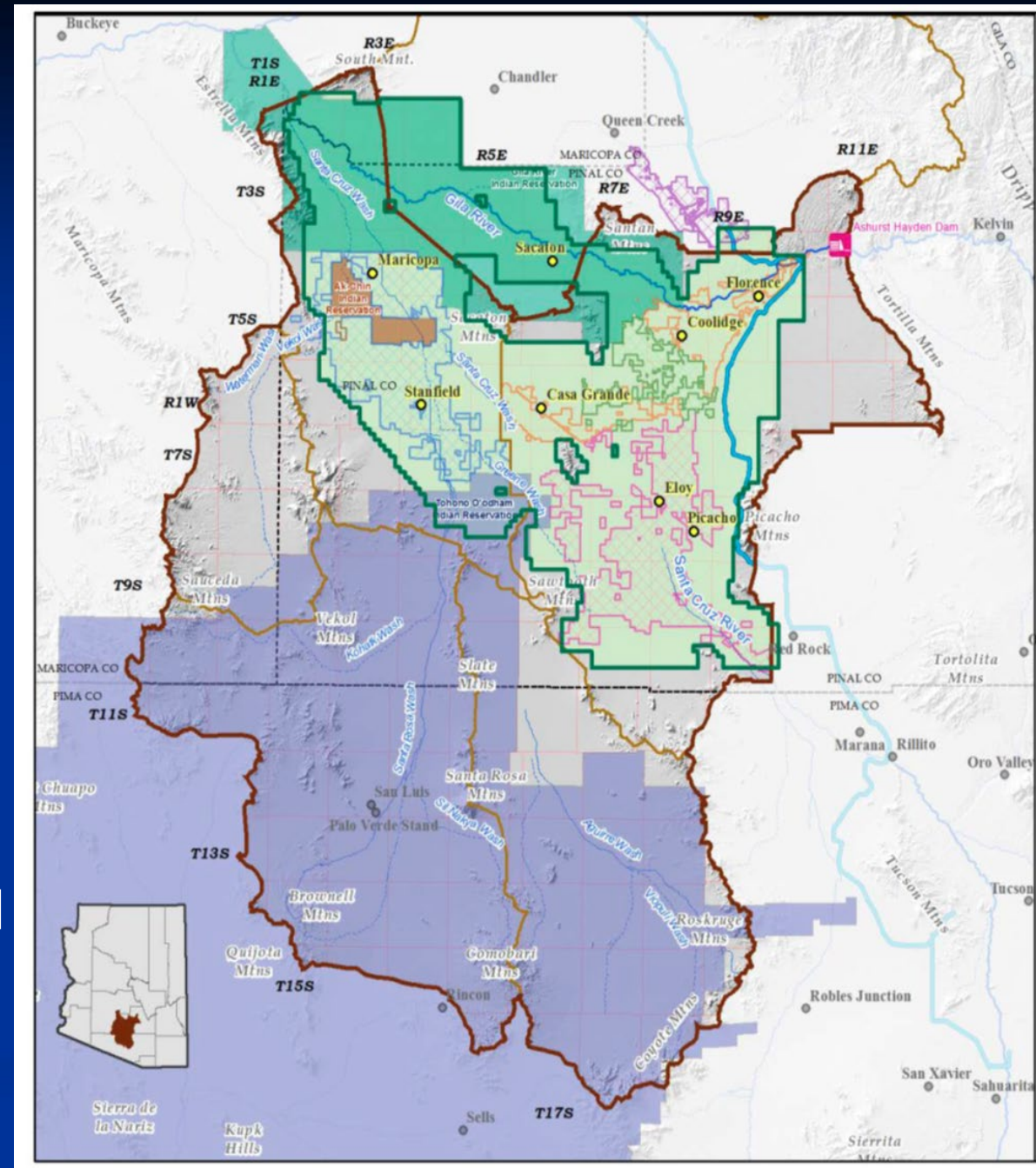
Presentation Overview

- 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 CAGRDR replenishment obligations based on 2015 CAGRDR 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 IGFRs
- 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	Certificates	Designations	TOTALS
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 100-Year Projection 2015 - 2114	2019 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.

