

The Context for Local Water Provision and Management in Arizona

In the Know H2O -- A SaddleBrooke Public Affairs Commission Program

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Water policy and management reflect many determining factors

- Resource Availability
- Location of water demands and supplies
- Economics
- Historic and Current Legal/Institutional Framework
- The nature of involvement of multiple governmental and non-governmental entities, including the extent of centralized versus decentralized decision making
- Politics of Area
- Public values and socio-cultural factors
- Historical context
- Information
- Etc...

Importance of Context

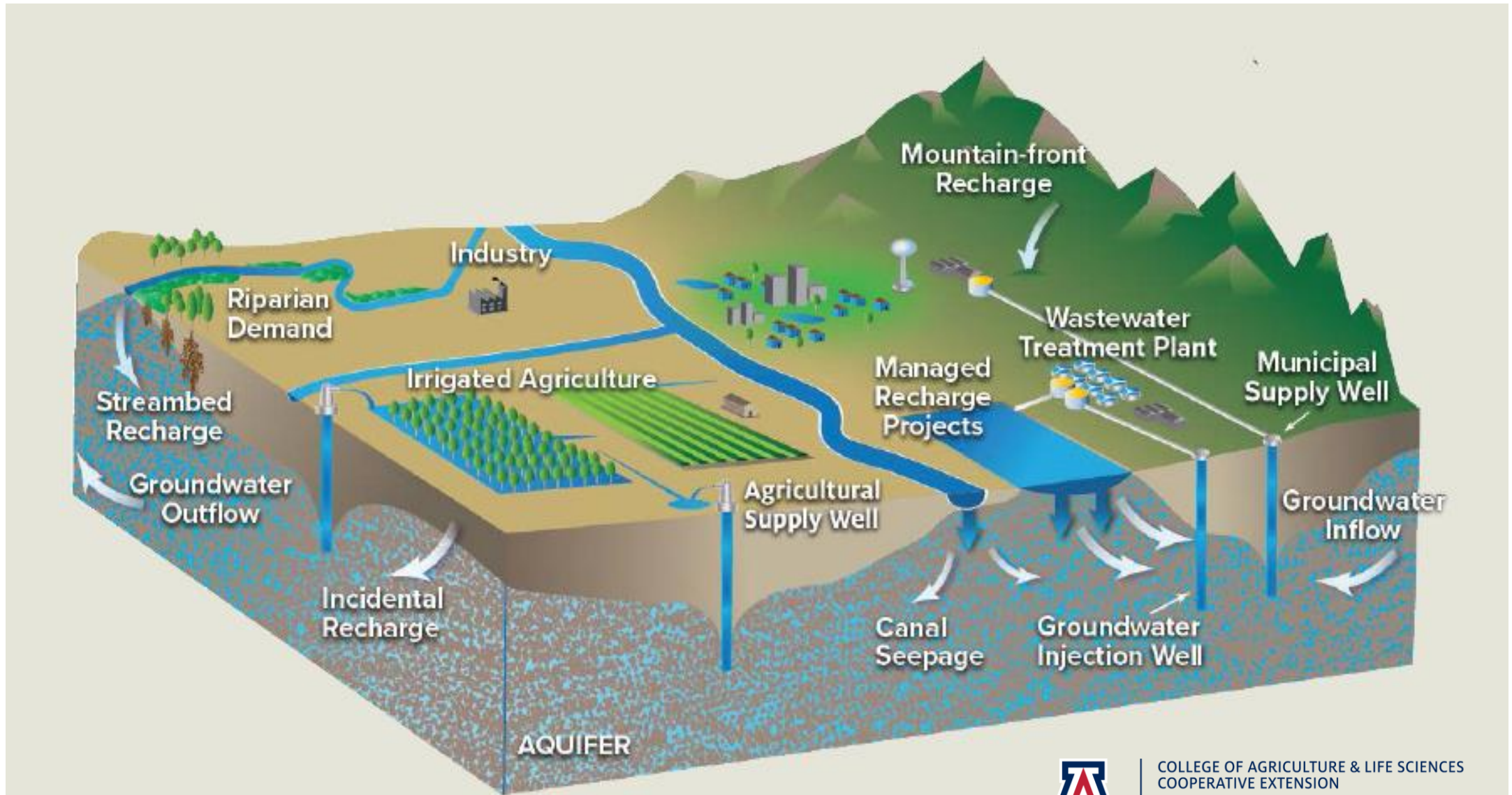
Water Cycle

Geographical and Jurisdictional

Wicked Water Problems

Regulatory Context

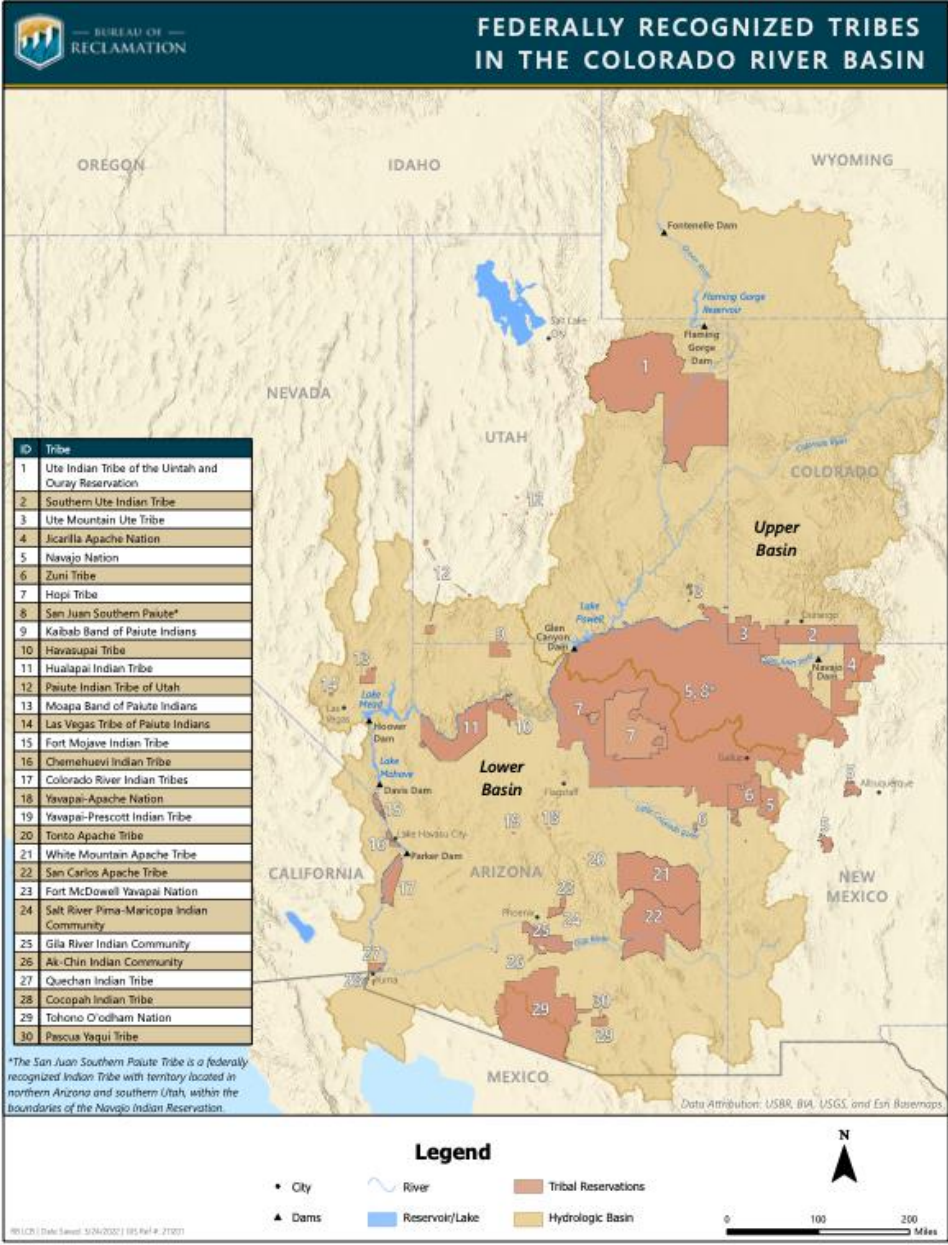
Water Cycle Context



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Geographic and Jurisdictional Context

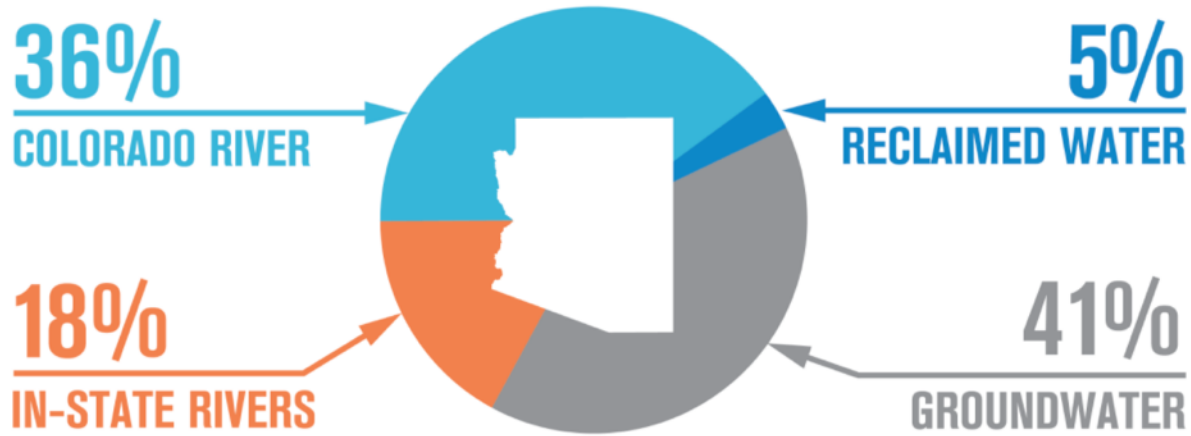


Wicked Water Problems Context

- Wicked Water Problems are big problems that do not have a simple pathway to resolving them.
- Two Wicked Water Problems Arizona is faced with
 - Imbalance of Water Supply and Demand (Colorado River in particular)
 - Groundwater invisibility and overdraft
- Collaboration and interdisciplinary work are necessary for addressing Wicked Water Problems.



ARIZONA'S WATER SUPPLY



SOURCE: ADWR, 2020

**PIE CHARTS WILL CHANGE
AS WATER USE CHANGES
(BOTH DEMAND AND
SOURCE)**

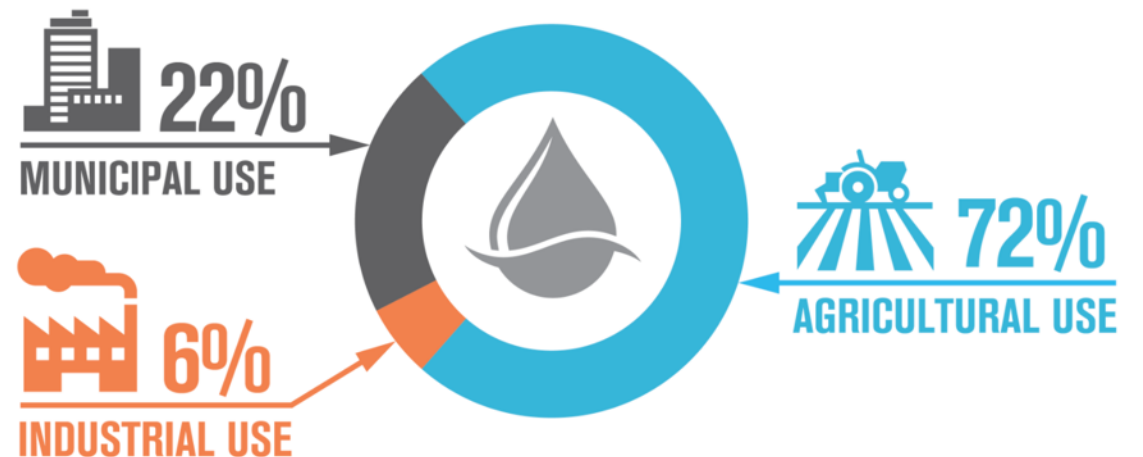
Regulation of water varies across the state, but there are rights to use the water that are difficult to change.

Surface water and groundwater are not regulated in an integrated way.

Environmental water not measured – natural systems are not a recognized water using sector.

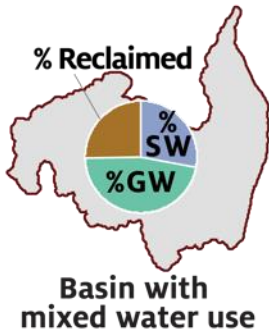
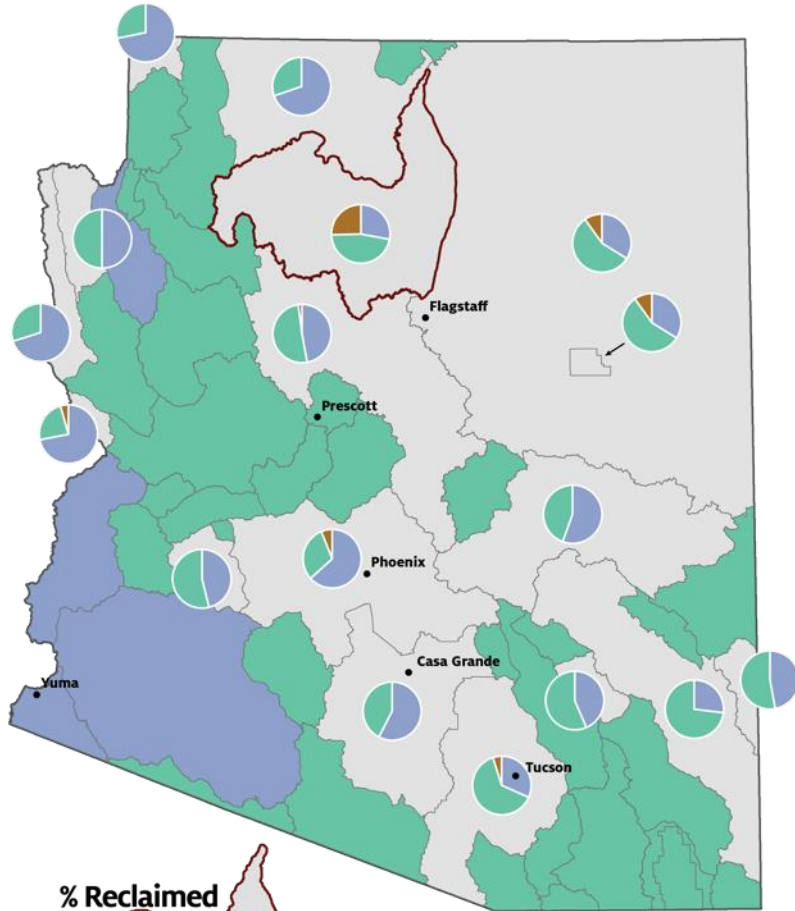
Most municipal water provision is by publicly operated water systems, though 15-18% of residents are supplied water by privately operated companies.

ARIZONA'S WATER USE BY SECTOR (2019)

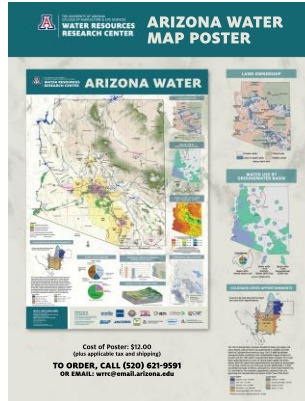


SOURCE: ADWR, 2020

WATER USE BY GROUNDWATER BASIN

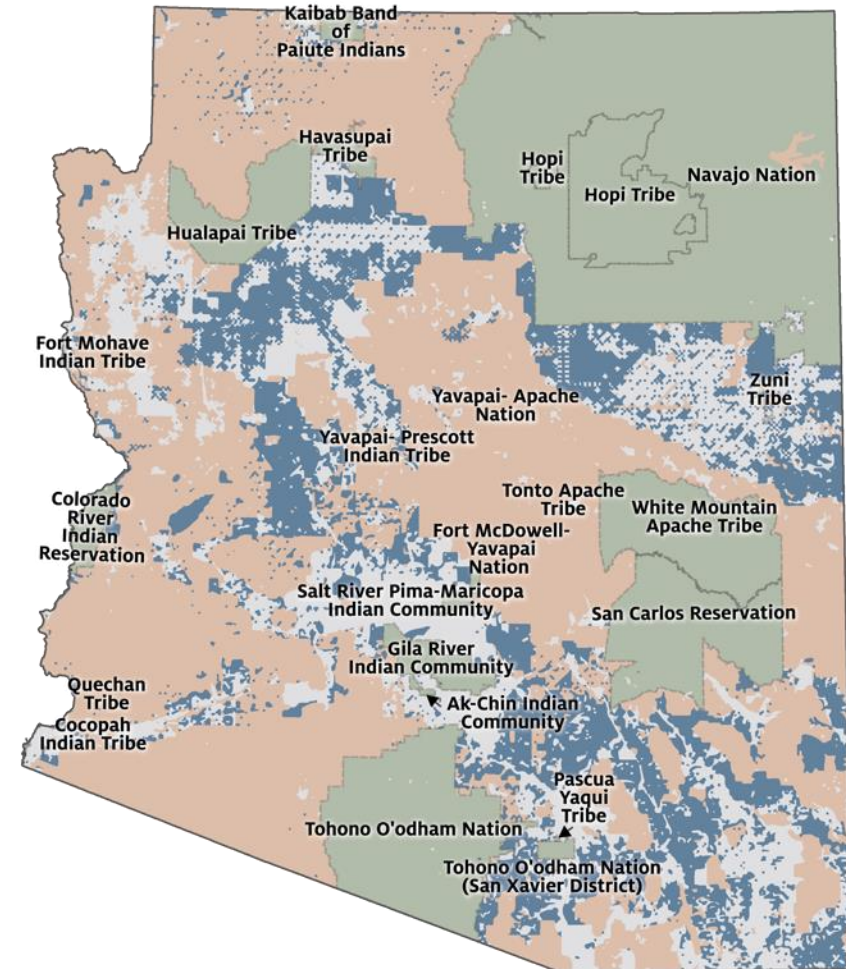


Source: ADWR 2016



Water resource situations vary across Arizona

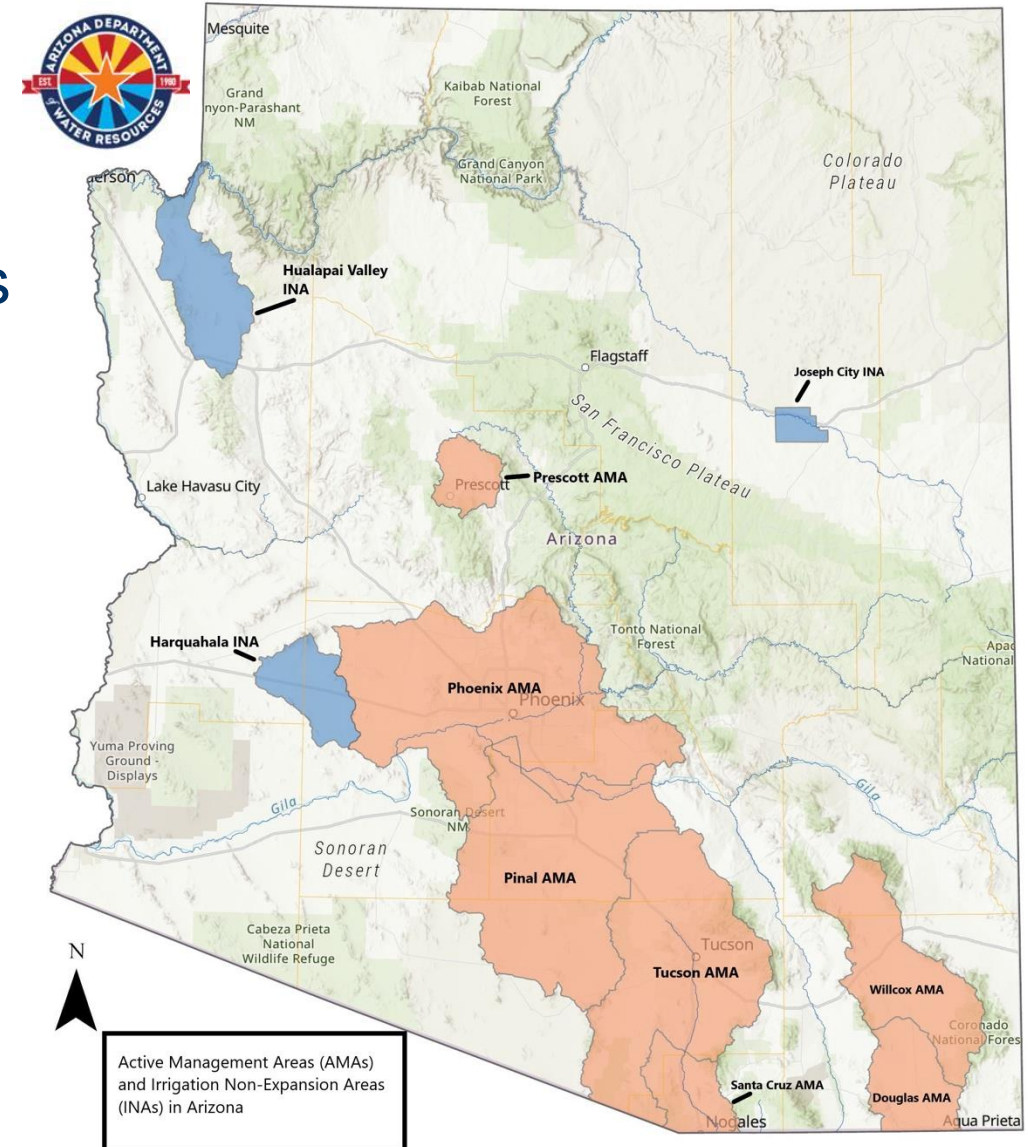
LAND OWNERSHIP



Source: ARLIS 2010

AZ Regulatory Context: 1980 Groundwater Management Act

- Created Active Management Areas (AMAs) with Management Goals and Irrigation Non-Expansion Areas (INAs)
- Quantified rights for existing groundwater users
- Some rights transferable
- Management Plans with Conservation Programs
- Restricted new groundwater uses but grandfathered in most uses.
- Footprint of agriculture could not expand.
- Placed burden of using renewable supplies on new residential uses through requiring an assured water supply program (AWS)
- Later legislation authorized recharge and recovery program



Assured Water Supply (AWS) Requirements

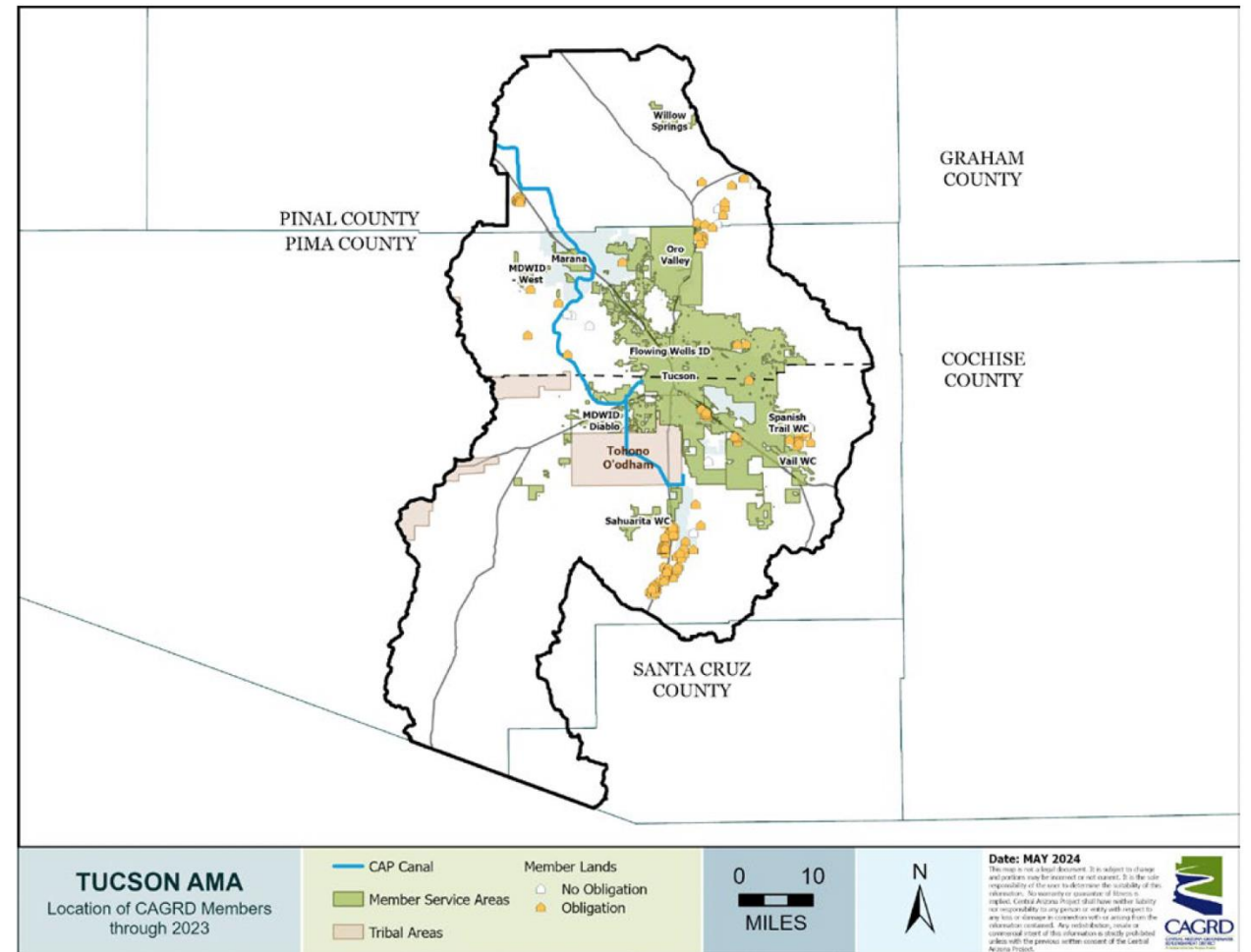
- Applicants (water companies or developers) Must Meet Five Criteria to Prove AWS:
 - Sufficient Quantity of Water for 100 Years (legally, physically and continuously available)
 - How is physical availability shown?
 - Water Source Meets Quality Standards
 - Water Use Consistent with Conservation Standards
 - Water Use Consistent with AMA Goals
 - Renewable water supply use can be direct or indirect
 - Applicant is Financially Capable
- Designations vs certifications of Assured Water Supply
- Adequate water supply determinations outside of the AMAs



SaddleBrooke

- In the Tucson AMA, where management goal is safe-yield
- Served by a privately owned water company
- Assured Water Certificate based on groundwater availability and membership in the Central Arizona Groundwater Replenishment District
- No direct access to renewable water supplies

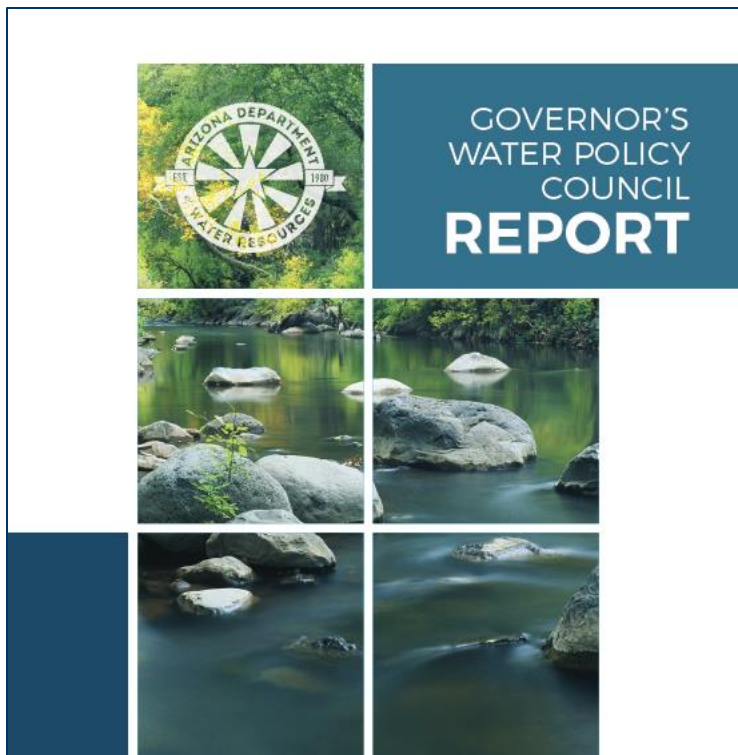
Figure 2.3
CAGRD Members in Tucson AMA



Focus is on solution to deal with demand-supply imbalance

- Conservation
- Greater efficiency
- Water reuse
- Water storage/banking/managed aquifer recharge
- Desalination (augmentation example)
- Moving water
- Marketing and other mutually agreed-upon transactions
- Rainwater and stormwater capture
- Designing the built environment

Work continues...



<https://www.azwater.gov/gwpc>
Issued January 2024

Dialogue, collaboration matter most to Arizona's water future

An annual conference, presented by the university's Water Resources Research Center, brought together a wide-ranging constituency to discuss solutions to the state's water-related problems.

By Brad Poole, University of Arizona Cooperative Extension
March 13, 2024

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Photo from WRRC
2024 Annual
Conference



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SAVE *the* DATE May 20–21

WRRC 2025 Annual Conference

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Thank you!!

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