

Long-Term Water Management in Rural Communities

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Water Planning in a Nutshell

- **Assess Needs and Sources**
 - Community input
 - Identify resources
 - Assess vulnerabilities
- **Secure Water Sources**
 - Groundwater
 - Surface Water
 - Colorado River
 - Water-reuse
 - Rainwater harvesting
- **Implement Technologies**
- **Utilize Legal Water Management Tools**
- **Secure Funding**
- **Promote Conservation & Reuse**
- **Protect Water Quality**
- **Plan for Climate Resilience – drought preparedness**

Agenda

- **Outside Active Management Areas**
 - Adequate Water Supply Program
 - Petition to Create an Active Management Area
- **Inside Active Management Areas**
 - Assured Water Supply Program
 - AMA Conservation Policies & Programs
- **Water Augmentation**
 - Potential Supplies
 - Water Markets
- **Funding options**

Outside AMAs

- **Adequate Water Supply Program**
 - Adequate Water Supply established in 1973 as a consumer protection program
 - Response to land fraud cases
 - Ned Warren Sr.: Known as the "Godfather of Arizona Land Fraud," he sold thousands of acres of uninhabitable land in Prescott Valley, often selling the same parcels and mortgages multiple times.
 - Chino Grande Ranchettes: Developers sold five-acre lots in a remote area of Yavapai County by misleading buyers, many of whom were servicemen abroad, about the rocky terrain and lack of infrastructure.
 - Requires subdivision developers to notify homebuyers in subdivisions if there is a 100-year water supply for their home



Water Adequacy Amendments (2007)

- **Allows municipalities and counties to require subdivision developers to have a 100-year water supply**
 - Unanimous vote
 - Can't be repealed

- **Only a handful of jurisdictions have adopted:**
 - **Cochise County**
 - Benson
 - Douglas
 - Huachuca City
 - Sierra Vista
 - Tombstone
 - Wilcox
 - **Yuma County**
 - San Luis
 - Somerton
 - Wellton
 - Yuma
 - **Clarkdale**
 - **Patagonia**

How to Create a New AMA

- **By declaration of the ADWR Director (A.R.S. § 45-412)**
 - To preserve existing groundwater supply
 - Land subsidence or fissuring is endangering property or potential groundwater storage capacity
 - Water quality damage
- **By local petition (A.R.S. § 45-415)**
 - Petition by 10% of registered voters within proposed AMA boundaries
 - Voting process through county recorder



1980 Arizona Groundwater Management Act (A.R.S. §§ 45-401, et seq.)

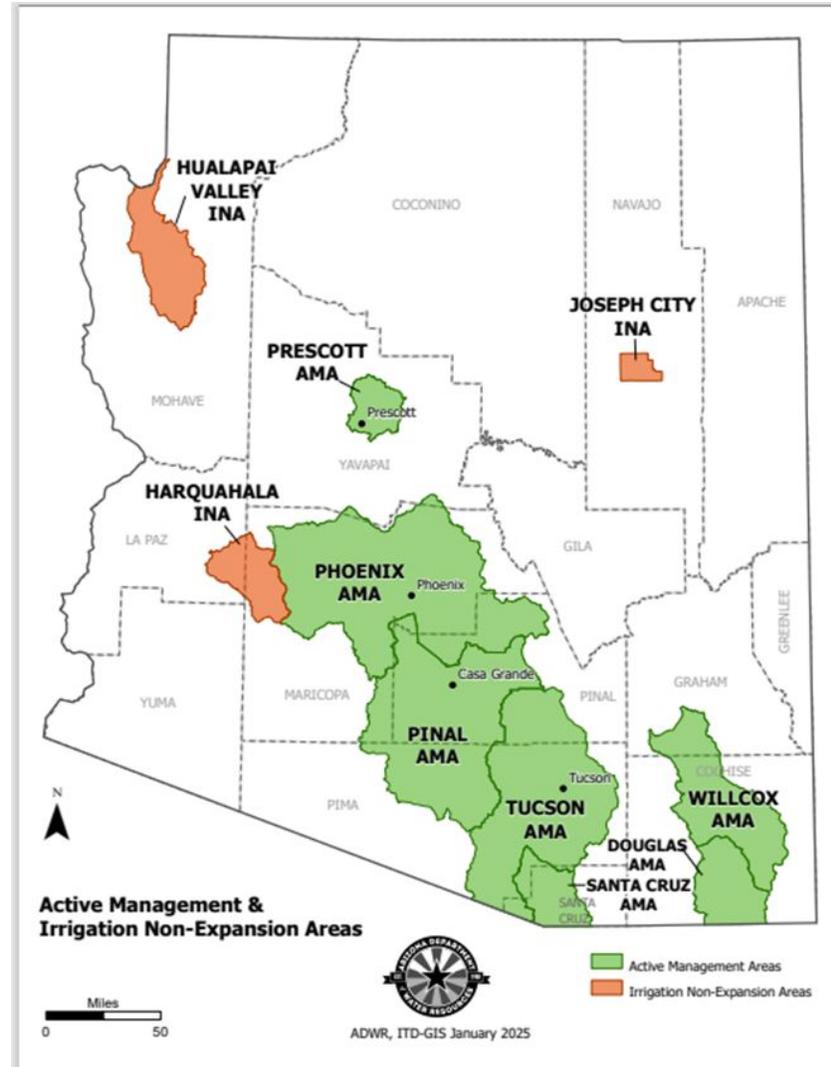
- Established areas of the state for enhanced groundwater protection, called Active Management Areas (“AMAs”) and Irrigation Non-Expansion Areas (“INAs”).
 - Imposes limitations to the “reasonable use” doctrine that applies elsewhere in the state.
 - In the AMAs, groundwater may only be withdrawn if the pumper has: (1) a grandfathered groundwater right based on historic groundwater use prior to creation of the AMA; (2) a service area right issued to municipal water providers and irrigation districts; (3) a groundwater withdrawal permit; or (4) an “exempt” well that pumps less than 35 gallons per minute.
 - Groundwater users exercising one of these rights generally must also comply with conservation measures intended to ensure efficient use of groundwater. These conservation measures are intended to become more stringent over time to gradually ratchet down groundwater pumping. In the INAs, groundwater use for irrigation purposes is limited to those lands that were in irrigation at the time the INAs were established.



1980 Groundwater Management Act

- Four initial Active Management Areas: Phoenix, Pinal, Tucson, Prescott
 - Santa Cruz carved off of Tucson AMA in 1994
 - Douglas AMA created in 2022
- Two initial Irrigation Non-Expansion Areas: Joseph City and Douglas
 - Harquahala INA (1981)
 - Hualapai INA (2022)
- Code created grandfathered water rights:
 - Irrigation Grandfathered Rights
 - Type 1 Non-Irrigation Grandfathered Rights: Allows irrigation rights to be retired in the AMAs and converted to Type 1 non-irrigation rights, which permits the water to be moved elsewhere in the AMA as long as withdrawn from same wells
 - Type 2 Non-Irrigation Grandfathered Rights: Rights that can be moved and withdrawn from anywhere within the same AMA
- Assured Water Supply Program
- Important to note that adoption of the GMA coincided with funding of the CAP Canal

AMAs and INAs





Assured Water Supply

- Assured Water Supply Program established in 1980 Groundwater Management Act
 - Requires all new subdivisions in an AMA to demonstrate that it has a 100-year Assured Water Supply
 - Certificates
 - Designations



Designations & Certificates

- **DAWS**
 - A Designation of Assured Water Supply is issued to a water provider for its service area located within an AMA.
- **CAWS**
 - A Certificate of Assured Water Supply is issued to landowners for a subdivision located within an AMA.
 - Every application for a Certificate of Assured Water Supply must demonstrate that the water supply will be physically available for 100 years. The criteria for demonstrating physical availability are set forth in A.A.C. R12-15-716(B). For groundwater supplies, a hydrologic study is required,



How do you prove an Assured Water Supply?

- Legal,
- Physical,
- Continuous availability for 100 years;
- Of adequate quality,
- And applicant must demonstrate the financial capability to build and operate infrastructure to deliver the water

AMA Water Conservation

- **Management Goals**
 - **Phoenix, Prescott, & Tucson: Safe-Yield by 2025**
 - **Pinal: Preserve the ag economy for as long as feasible, while considering the need to preserve gw for future non-irrigation uses**
 - **Santa Cruz: Maintain safe-yield and prevent local water tables from experiencing long-term declines**
- **Management Plans**
 - **Municipal, Industrial, Agricultural Conservation Requirements**
- **Enforceable Allotments**

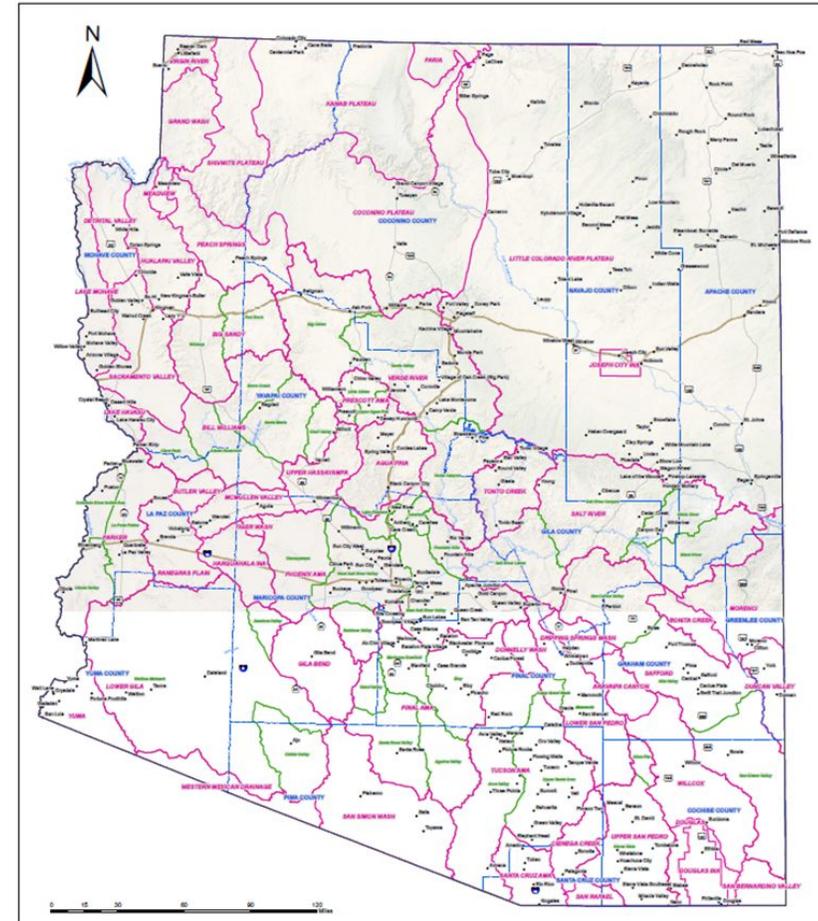


Water Supply Augmentation

- **Yavapai Apache Settlement – CC Cragin**
 - 60-mile pipeline from C.C. Cragin Reservoir (formerly Blue Ridge) to the Verde Valley
 - » Benefits Yavapai-Apache nation (renewable water source) and non-tribal communities in the Verde Valley (water certainty)
- **What restrictions are there?**
 - Groundwater transportation restriction
 - Groundwater transportation basins
 - McMullen Valley, Butler Valley, Harquahala INA, Big Chino

1991 Groundwater Transportation Statutes

- **Unregulated and unlimited potential for transporting groundwater away from rural communities eventually led to passage of state legislation.**
- **All inter-basin groundwater transfers would cease except for in McMullen Valley, Butler Valley, Harquahala INA, and Big Chino.**



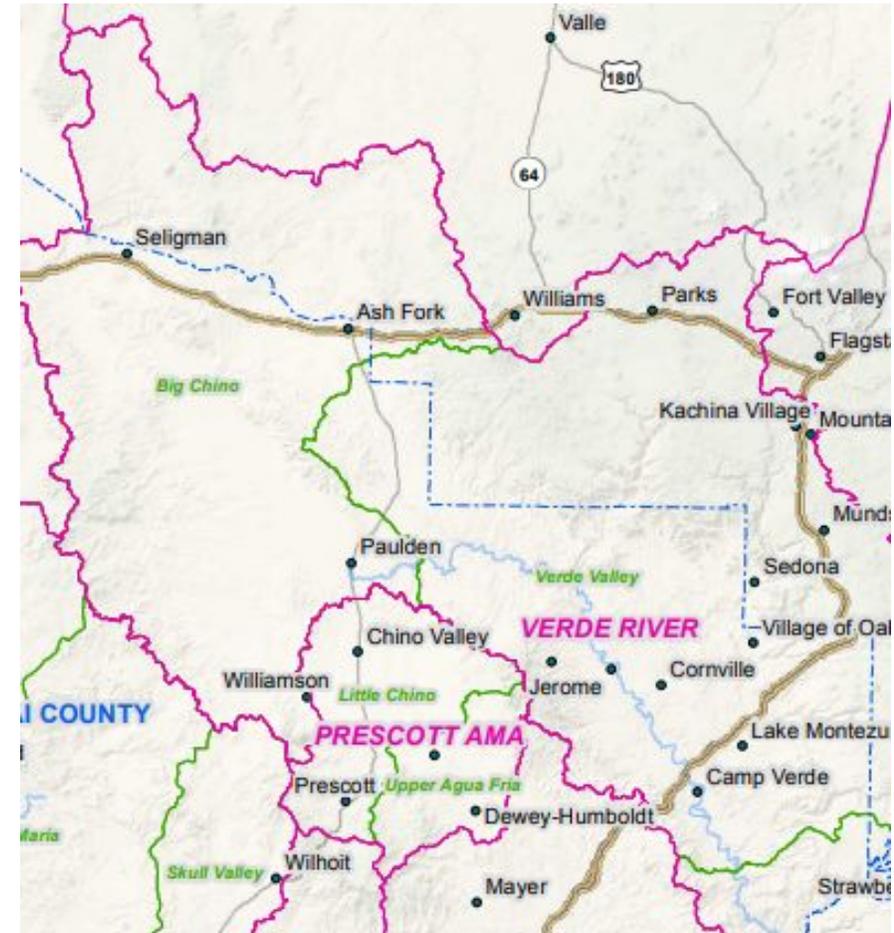
State of Arizona
Groundwater Basins and Sub-basins

Cities over 250 people*

- City or Town
- Interstate
- State Highway
- US Highway
- County
- Stream or River
- Groundwater Basins
- Groundwater Sub-basin

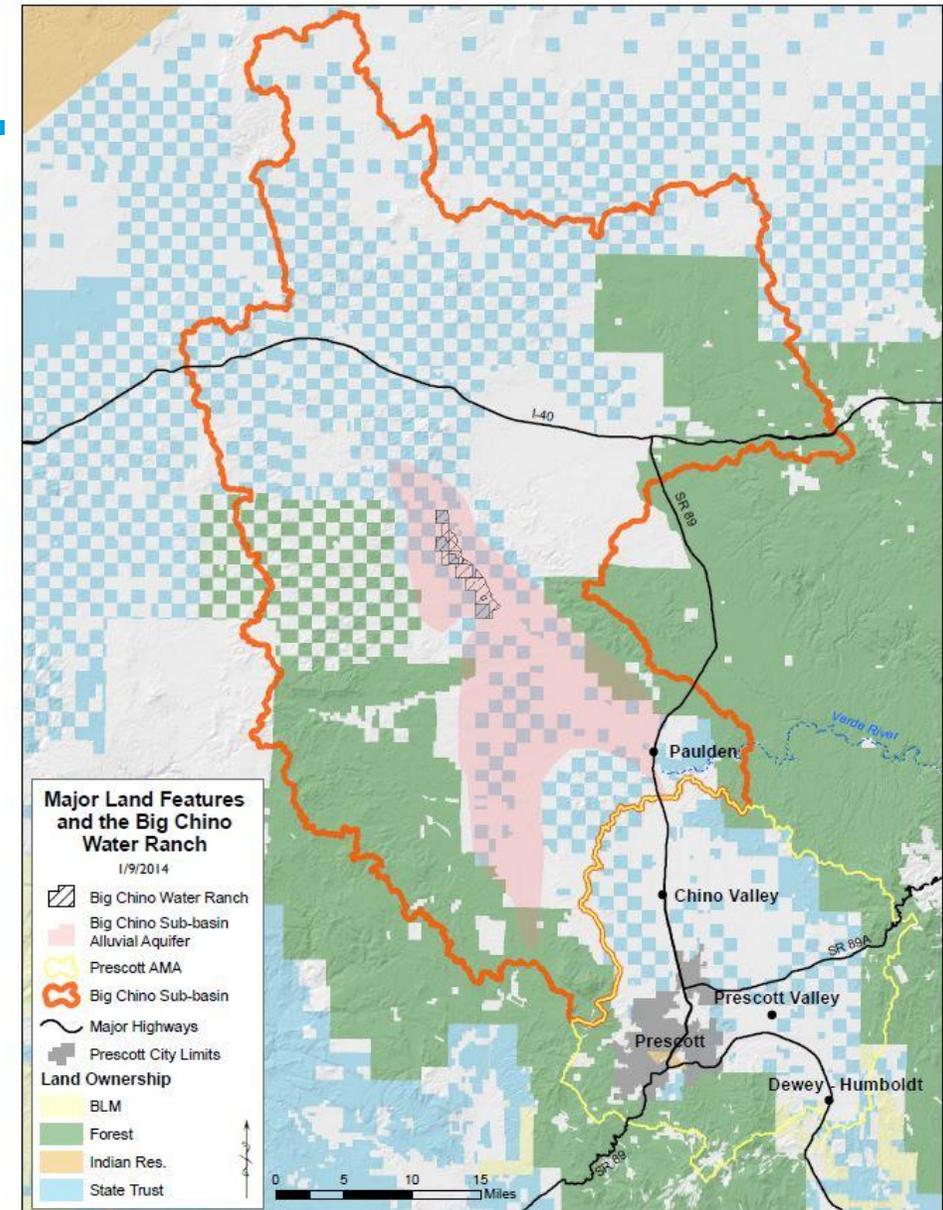
A.R.S. § 45-555: Big Chino

- Any city or town owning land that has historically irrigated acres in the Big Chino basin, or a city or town with consent of the landowner, may withdraw and transport to the Prescott AMA
 - Limited to 2x the annual transportation allotment
 - For any period of 10 consecutive years, ten times the annual transportation allotment
 - Allotment is 3 af per acre
- A city or town located in the Prescott AMA may withdraw and transport 8,068 afa



Big Chino

- In 2004, Prescott proposed Big Chino Ranch project to import up to nearly 12,000 acre-feet per year from the Big Chino basin to support their Assured Water Supply
- ADWR approved, and SRP and others challenged, alleging that it would harm the flow of the Verde River but didn't have standing.
- 2010 settlement between Prescott, Prescott Valley, and SRP – SRP achieved their goal to protect Verde River by gaining agreement of Prescott and PV to monitor and mitigate affects of pumping on flows of the Verde River.
- Yavapai-Apache Nation appealed, Court of Appeals upheld ADWR's decision and denied YAN's claim that the appeal statute was unconstitutional (*Yavapai-Apache Nation v. Fabritz-Whitney*, 227 Ariz. 499 (Ariz. Ct. Appeals 2011)).





Water Markets

- **Surface and ground water not conjunctively managed**
- **Informal water markets**
 - **Statewide/Outside AMAs**
 - **Surface water**
 - **Colorado River Entitlements**
 - **Long-Term Storage Credits (CAP, Colorado River, effluent)**
 - **Certificates of Adequate Water Supply**
 - **In AMAs**
 - **Grandfathered Irrigation Groundwater Rights in AMAs**
 - **Grandfathered Non-Irrigation Groundwater in AMAs (Type 1 – limited, Type 2 - expansive)**
 - **Certificates of Assured Water Supply**
 - **Groundwater in INAs**



Water Supply Funding

- **Bonding**
- **Special Taxing District overlays (list)**
- **Regional partnerships**
- **PPPs (private equity)**
- **Federal Funding**
 - **USDA and EPA Grants**
- **Water Infrastructure Finance Authority (WIFA)**



WIFA

- An independent state authority authorized to finance the construction, rehabilitation, acquisition, and improvement of water infrastructure throughout Arizona
- Administers:
 - Drinking Water State Revolving Fund
 - Clean Water State Revolving Fund
 - Water Supply Development Fund
 - Water Conservation Grant Fund
 - Long-Term Water Augmentation Fund
- WIFA has several sources of capital, including bonds offerings, federal grants, state appropriations, and the reinvestment of loan repayments to offer project financing at below-market interest rates and invest in Arizona's water future



Rural Groundwater Management Legislation

- “AMA Light”
- Based on AMA structure
- Local control

Questions?